# Natural Resources Defense Council, Inc.

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January 16, 1975


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SUPREME COURT, U.S.


Mr. Michael Rodak, Jr., Clerk
United States Supreme Court
One First Street, N.E.
Washington, D. C. 20543

Re: Russell E. Train, Administrator, United States Environmental Protection Agency, and United States Environmental Protection Agency ("EPA"), v. Natural Resources Defense Council, Inc., Save America's Vital Environment, Janey Weber, and Suzanne Allstrom, ("NRDC, et al."), No. 73-1742

Dear Mr. Rodak:

Yesterday, in oral argument on the above-referenced case, I was questioned by the Court with respect to the question of respondents' standing to bring suit in the court below. Having consulted my records, I find that my memory of the history of this issue before the lower court was in error in some respects. In order to allow the Court to consider the issues discussed yesterday on the basis of accurate information, I would appreciate your conveying this letter and the attached documents to the Justices.

As I stated at oral argument, the issue of the standing of respondents (petitioners below) was considered by the Fifth Circuit. This case arose pursuant to a provision of the Clean Air Amendments, § 307, 42 U.S.C., § 1857h-5, which provides for direct review of certain of the EPA Administrator's decisions in the United States Court of Appeals. NRDC, et al., originally filed a simple notice pleading in the form suggested in Rule 15(a) and Form 3, F.R.A.P., for seeking review of an administrative action. This petition was filed by the Fifth Circuit clerk's office on May 30, 1972. (The petition, together with the Clerk's notice of filing, are appended to this letter as Attachment A.)*

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* Inexplicably, none of the attached documents were transmitted to this Court with the record in the court below. Since respondents herein were the prevailing parties in the court below, and therefore were not responsible for the transmission of the record, this was unknown to me prior to Wednesday's argument.


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During the period prior to the challenged approval of the Georgia Plan, while EPA was considering whether to approve the State Implementation Plans for all the States, petitioner NRDC had submitted extensive comments. These comments addressed the variance issue now before the Court, and noted, inter alia, the fact that Georgia's variance statute was among those NRDC considered deficient. Because of this participation in the administrative process leading up to the challenged agency action, because there seemed no question that petitioners met the requirements for standing, and because of the Federal Rules' instruction as to the proper form for filing a petition for review, petitioners did not allege facts with respect to standing in their petition.

This appears to have been the government's understanding also, for EPA did not, contrary to my recollection yesterday before the Court, challenge petitioners' standing at any time during the proceedings.

In December, 1973, however, the County of Harris, Texas, filed with the Fifth Circuit a motion to submit a brief amicus curiae, which was granted by the court. In its brief, Harris County raised the issue of petitioners' standing to bring suit.

In order to resolve any questions with respect to their standing, NRDC, et al., filed on January 23, 1974, a motion to amend their petition to allege facts in support of their standing, together with an amendment to the petition. A copy of this motion is appended as Attachment B to this letter; the amendment to the petition is appended as Attachment C.) The motion to amend was granted by the court on February 7, 1974.*

As amended, the petition recites that NRDC is a non-profit, national membership organization, dedicated to the protection of the environment, with some 16,000 members nationally, and states that in the instant case NRDC is suing on behalf of the interests of the 103 of its members who reside in Georgia in the protection of their personal health and welfare. In an affidavit appended to this allegation (Exhibit 1, pp. 3-4, of Attachment C hereto) the amended petition notes that during the period while EPA was considering the State Implementation Plans in 1972,

> NRDC submitted a lengthy and detailed analysis of some 24 of these Plans, pointing out the

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* Petitioners did not receive a copy of the court's order granting their motion to amend. However, a call to the clerk's office at the Fifth Circuit Court of Appeals today confirmed that the motion to amend was granted on February 7, 1974. The clerk's office has agreed to forward a copy of the court's order to Mr. Rodak as soon as possible.



> weaknesses which we felt required disapproval of them, at least in part. Some of [NRDC's] criticisms were heeded in EPA's subsequent rule-making with respect to the Plans (37 Fed. Reg. 10842 (May 31, 1972)) [the rule-making at issue in the case now before the Supreme Court]; others became the subject of litigation.

The amended petition also alleges that Save America's Vital Environment ("SAVE") is a non-profit corporation, organized under the laws of Georgia, whose 200 members who reside in Georgia have affiliated for the purpose of protecting their interests in the environment of Georgia from encroachment or destruction. The petition states that in this case, SAVE represents its members' personal interest in the protection of their health and welfare, which would be injured if the Administrator's approval of the deficient Georgia Implementation Plan were allowed to stand.

With respect to the two individual petitioners, Suzanne Allstrom and Janey Weber, the amended petition states that Miss Allstrom lives in a central city neighborhood of Atlanta, Georgia, surrounded by commercial and industrial development, and that Miss Weber also resides in the polluted Atlanta Air Quality Control Region. It states that both women sue on behalf of their interests in eliminating the injury to their personal health and welfare caused by the polluted Atlanta air.

I have transmitted the attached documents to you, after consultation with Mr. Norton, of the Solicitor General's office, in an attempt to comply as rapidly as possible with yesterday's request from the bench to make available to the Court the materials from the court below related to the standing issue. I believe that, as amended, the pleadings before the court below clearly establish the standing of NRDC, et al., under the Clean Air Amendments and the prior decisions of this Court. The Court has previously taken note of the fact that polluted air is a societal ill that injures very wide segments of the population. U.S. v. S.C.R.A.P., 412 U.S. 669 (1974).

Mr. Norton and I wish to express our appreciation for your help in bringing this clarifying information before the Court. Should the Court wish to explore the standing question further, both parties would request an opportunity to address briefs to the issue.

Sincerely yours,

*Richard E. Ayres*

Richard E. Ayres
Counsel to Respondents

Enclosures
cc: Gerald Norton

ATTACHMENT A:

Petition for Review and

Notification of the Filing of the Petition for Review from the Office of the Clerk, United States Court of Appeals for the Fifth Circuit

IN THE
UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

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|---|---|---|
| Natural Resources Defense Council, Inc., Project on Clean Air<br>Save America's Vital Environment, Inc.<br>Janey Weber<br>Susanne Allstrom<br><br>Petitioners,<br>against<br><br>Environmental Protection Agency<br><br>Respondent | ) | No. _____ |

PETITION FOR REVIEW

Petitioners petition this court for a review of the rules and regulations promulgated by respondent (37 Fed. Reg. 10842 et seq., 40 CFR Part 52, Subchapter C) insofar as they approve the State implementation plan for the State of Georgia.

Ogden Doremus
111 West Congress St.
Savannah, Ga. 31402
Tel. 914-234-7215

Richard E. Ayres
36 West 44th Street
New York, New York 10036
Tel. 212-986-8310

Counsel for Petitioners

NRDC v. EPA (Georgia)

United States Court of Appeals
FIFTH CIRCUIT

EDWARD W. WADSWORTH
CLERK

OFFICE OF THE CLERK

ROOM 408-400 ROYAL ST.
NEW ORLEANS, LA. 70130
(504) 527-6514

June 30, 1972

Mr. William D. Ruckelshaus
Administrator
Environmental Protection Agency
Waterside Mall
4th and M Streets, S.W.
Washington, D.C. 20460

Re: No. 72-2402 NATURAL RESOURCES DEFENSE COUNCIL, INC., PROJECT ON CLEAN AIR, ET AL -vs- ENVIRONMENTAL PROTECTION AGENCY

Dear Sir:

Pursuant to Rule 15 of the Federal Rules of Appellate Procedure, you are herewith being served with the following document this day filed:

(x) Petition for Review.

( ) Application for Enforcement.

( ) Cross-Application for Enforcement.

See Rules 16 and 17 of the Appellate Rules as to the composition and time for the filing of the record.

Very truly yours,

EDWARD W. WADSWORTH,
*Clerk*

By Marie Centanni
*Deputy Clerk*

/mgc
enc.
cc: Mr. Richard E. Ayres
Mr. Ogden Doremus, III
Hon. Jimmy Carter

FPI 81—7-15-68-88-2408

ATTACHMENT B:

Motion of NRDC, et al., to Amend the Pleadings to Allege Facts Supporting Petitioners' Standing to Sue

IN THE
UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

| | | |
|---|---|---|
| NATURAL RESOURCES DEFENSE COUNCIL, INC., et al., Petitioners, | ) | |
| v. | ) | No. 72-2402 |
| ENVIRONMENTAL PROTECTION AGENCY, Respondent. | ) | |

MOTION TO AMEND THE PLEADING TO ALLEGE
FACTS SUPPORTING PETITIONERS' STANDING TO SUE.

Purpose of Motion

Petitioners hereby move the Court to amend the pleadings in this case to allege facts in support of their standing to bring suit. This motion in no respect implies agreement with amicus[1] Harris County that such an allegation is necessary; to the contrary, the county's request has basis in neither law nor policy, as we will show in a Memorandum of Law to be submitted shortly to the Court. Rather, the motion is intended merely to assure the Court that petitioners are proper parties to bring this suit, and to protect petitioners' interests.

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1/ This motion has not been submitted previously because counsel for petitioners has not received any Court ruling granting Harris County the right to submit a brief amicus curiae in this proceeding. Notice that such intervention has been granted reached petitioners' counsel only recently, through a letter from the Harris County District Attorney's office. According to that letter, the Court granted Harris County's motion to intervene in December.



Leave to Amend
Should be Granted

Section 1653 of the Judiciary Code, 28 U.S.C. §1653, provides that "Defective allegations of jurisdiction may be amended, upon terms, in the trial or appellate courts." Long-standing case law, and the Federal Rules of Civil Procedure, establish that this mandate is to be read broadly, to prevent doing injustice and to assure that substantive rights are not extinguished on procedural grounds.

The principle that courts should freely allow amendments of pleadings to prevent doing substantive injustice is threaded through a long-standing and powerful body of law. Long before the passage of the liberalized Federal Rules, the Supreme Court held in two cases that plaintiffs should be allowed to cure defects in their pleadings, rather than suffer dismissal. In Howard v. DeCordova, 177 U.S. 609 (1900), the Court declared it to be the duty of the lower court to allow a plaintiff to amend his complaint to allege proper citizenship for purposes of diversity jurisdiction. Thirteen years later, the Court added, in Springstead v. Crawfordsville State Bank, 231 U.S. 541 (1913), that where a plaintiff had averred diversity, he must be allowed to amend his complaint to allege the facts needed to prove the averral.

Countless succeeding cases at the district and appellate court levels reiterate the same principle. These decisions span the gamut of grounds for federal jurisdiction, allowing amendment

to allege diversity,[2] amount in controversy,[3] place of business,[4] citizenship,[5] residence,[6] alternative grounds for jurisdiction,[7] and federal question.[8]

The principle of freely allowing amendment of pleadings is so thoroughly ingrained in the law that it applies even after judgment has been rendered. For example, Professor Moore states that one of the two reasons for granting a Motion to Alter or Amend a Judgment should be to vacate a judgment of dismissal in

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2/ Troupe v. Chicago D.&G. Bay Transit Co., 234 F.2d 253 (2d Cir., 1956); McEldowney v. Card, et al., 193 F. 475 (C.C. Tenn., 1911); Atchison, T.&S.F. Ry. Co. v. Gilliland, 193 F. 608 (9th Cir., 1912); Stockwell v. Boston and M. Ry. Co., 131 F.R. 153 (Vt., 1904); Cleveland Cliffs Iron Co. v. Village of Kinney, et al., (D.C. Minn., 5th Div., 1919).

3/ Williams v. Molther, et al., 198 F. 460 (2d Cir., 1912); Lemmon v. Cedar Point, Inc., 496 F.2d 94 (6th Cir., 1969); Carr v. Fife, 45 F. 209 (C.C. Wash., 1891), aff'd, 156 U.S. 494 (1895); Cox v. Livingston, 407 F.2d 392 (2d Cir., 1969).

4/ Velandra v. Regie, 336 F.2d 292 (6th Cir., 1964).

5/ Cunard S.S. Co., Ltd. v. Sullivan, 6 F.2d 383 (2d Cir., 1925); Kaufman v. Western Union Telegraph Co., 224 F.2d 723 (5th Cir., 1955); Smith v. Dealers' Transit, Inc., 239 F. Supp. 605 (E.D. Tenn., 1965).

6/ Troupe v. Chicago, D.&.G. Bay Transit Co., 234 F.2d 253 (2d Cir., 1956).

7/ Martin v. Ethyl Corp., 341 F.2d 1 (5th Cir., 1969).

8/ Blanchard v. Terry and Wright, Inc., 218 F.Supp. 910 (D.C.W.D. Ky., 1963), aff'd 331 F.2d 467 (6th Cir., 1964), cert. denied, 379 U.S. 831 (1964).



order to allow the amendment of a complaint. 6A Moore's Federal Practice, ¶59.12. Professor Moore cites numerous cases for the proposition that a trial court would abuse its discretion if it denied leave to amend, even after dismissing a case.[9] Where, as here, the case is still pending, the rule applies with even greater force.

On the basis of these authcrities, the motion to amend should be granted.

Respectfully submitted,

Richard E. Ayres

Richard E. Ayres
Counsel to Petitioners

January 23, 1974

9/ Though this is not a trial court, the situation is analogous, since the Court of Appeals is the court of first instance in this case.

CERTIFICATE OF SERVICE

I certify that copies of petitioners' Motion to Amend the Pleadings to Allege Facts Supporting Petitioners' Standing to Sue and Amendment to Petition for Review Herein were served to Henry J. Bourguignon, Esq., Appellate Section, Department of Justice, 10th and Constitution Avenue, N.W., Washington, D.C. 20530 and Charles J. Wilson, Esq., Assistant County Attorney, 301 San Jacinto Street, Suite 202, Houston, Texas by placing them in the U.S. Mail, properly addressed and postage prepaid this 23rd day of January, 1974.

Richard E. Ayres

Richard E. Ayres
Counsel to Petitioners

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ATTACHMENT C:

Amendment of NRDC, et al., to their Petition for Review

IN THE

UNITED STATES COURT OF APPEALS

FOR THE FIFTH CIRCUIT

| | | |
|---|---|---|
| NATURAL RESOURCES DEFENSE COUNCIL, INC., et al., | ) | |
| Petitioners, | ) | |
| v. | ) | No. 72-2402 |
| ENVIRONMENTAL PROTECTION AGENCY | ) | |
| Respondent. | ) | |

AMENDMENT TO PETITION FOR REVIEW HEREIN

On June 30, 1972, petitioners herein filed a petition for review of the rules and regulations promulgated by respondent Environmental Protection Agency ("EPA") (37 Fed. Reg. 10842, et seq., 40 CFR Part 52, Subchapter C) insofar as they approved the State Implementation Plan, submitted pursuant to the Clean Air Amendments of 1970, of the State of Georgia. In support of their standing to sue in such matter, petitioners hereby amend this petition by inserting, at the end of the paragraph stating the issue for which review is sought, the following allegation of facts.

Standing

1. Petitioner NATURAL RESOURCES DEFENSE COUNCIL, INC. ("NRDC"), is a non-profit corporation organized under the laws of the State of New York, with offices at 15 West 44th Street, New York, New York, 1710 N Street, N.W., Washington, D.C., and 664 Hamilton Avenue, Palo Alto, California. NRDC is a national organization dedicated to the preservation and defense of the human environment and natural resources of the United States. Among NRDC's objectives are: (a) to provide a central, national focus for lawyers, scientists, and concerned citizens in an effort to make our courts and administrative agencies effective instruments of environmental protection; (b) to undertake environmental cases which have a potential for establishing widely applicable precedent or for saving or reclaiming an important aspect of our national endowment; (c) to provide legal advice and assistance to citizens and organizations seeking to protect the environment; (d) to monitor federal and State administrative agencies to ensure that the fullest consideration of the public interest in protecting the environment; and (e) to create and foster wide public understanding of how resources may be saved and reclaimed through the law.

Since early 1971, one of NRDC's major projects has been monitoring the implementation of the 1970 Clean Air Act. NRDC's considerable efforts to this end are documented in the attached affidavit (See Exhibit 1, attached) and the value of NRDC's interests in monitoring State and federal actions with regard to air pollution were explicitly noted by Judge Frankel in the decision of the District Court in Harlem Valley Transportation Association, et al., v. George M. Stafford, et al., 5 ERC 1503 (D.C.S.D.N.Y., June 21, 1973). See Exhibit 2, 5 ERC at 1507 (attached).

In the instant case, NRDC represents the 103 of its approximately 16,000 members who reside in Georgia. The health and welfare of these members as well as NRDC's long term interests in the diligent implementation of the Clean Air Act are adversely

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affected by EPA's approval of the Georgia State Plan which does not insure the attainment of the National Standards as required by the Clean Air Act.

2. Petitioner SAVE AMERICA'S VITAL ENVIRONMENT ("SAVE") is a non-profit corporation, organized under the laws of Georgia in 1969. With a membership of some 200 Georgia residents, it maintains its principle office at 881 W. Conway Road, N.W., Atlanta. SAVE's purpose is to protect the environment of Georgia from encroachment and destruction through legislative, judicial, and administrative processes, as well as through citizen education. The organization maintains four full-time representatives at the Georgia State Capitol to advise State legislators on its members' interests in protecting Georgia's natural resources.

SAVE has represented the interests of its members in protecting public health and welfare from the dangers of air pollution over a long period of time. During 1972, SAVE testified in the State hearings held pursuant to §110 of the Clean Air Amendments on the Georgia State Implementation Plan, which is the subject of this litigation. SAVE also has sponsored, over the past three years, several public information forums on clean air and transportation control issues.

The knowledge and concern of SAVE members has been recognized by appointments to serve on Georgia State environmental agencies dealing with air pollution problems. The current SAVE President, Robert Humphries, was chosen to serve on the Georgia Ad Hoc Committee on Air Quality Standards, as well as the Citizens' Advisory Committee to the Georgia Department of Health at the time when the Department had full responsibility for the control



of air pollution. Two members of the SAVE Board of Directors currently serve as members of the Board of Georgia State Department of Natural Resources, the agency now responsible for air pollution matters.

As petitioner in this case, SAVE therefore represents its members' interests in two ways. First, SAVE represents its members' direct, personal interest in the protection of their own health and welfare, which will be irreparably injured should the Administrator's illegal approval of the Georgia Plan be allowed to stand. Second, SAVE represents its members' interest in preserving and extending the protection of public health and welfare of all the citizens of Georgia which they have labored so long and responsibly for.

3. Petitioner SUSANNE ALLSTROM resides at 819 Ashland Avenue, N.E., Atlanta, Georgia, in a central city neighborhood, Inman Park, surrounded by industrial and commercial development. As a member and former officer of the Inman Park Association, a neighborhood membership organization with over 200 members, Ms. Allstrom has concerned herself in the last three years with numerous environmental issues related to air pollution, ranging from support for a "City Park Plan" and opposition to proposed I-485 highway construction to formal complaints about emissions of noxious gas and soot from a local foundry. These complaints culminated in a suit brought by the Fulton County Health Department against the Grinnell Corporation.

The Administrator's approval of a State Implementation Plan for Georgia that fails to insure the attainment and maintenance of National Air Quality Standards in the polluted Atlanta Air

Quality Control Region directly and adversely affects Ms. Allstrom's interests in protecting her health and welfare from the continuing damage caused by the pollution in her neighborhood and city.

4. Petitioner JANEY WEBER, 670 Starlight Lane, N.E., Atlanta, Georgia, also resides in the polluted Atlanta Air Quality Control Region. As a result, her health and welfare are subjected to the continuing insults caused by air pollution. The Administrator's approval of the deficient State Implementation Plan therefore also directly and adversely affects Ms. Weber's interests in her health and welfare, by failing to insure the attainment and maintenance of air quality meeting the National Standards.

EXHIBIT 1

AFFIDAVIT RELATED TO INTERESTS OF PETITIONER
NATURAL RESOURCES DEFENSE COUNCIL, INC.
IN THE ADMINISTRATION OF THE CLEAN AIR ACT
IN THE CASE OF THE
HARLEM VALLEY TRANSPORATION ASSOCIATION, ET AL.,
v. GEORGE M. STAFFORD, ET AL.,
73 CIV. NO. 1330 (D.C.S.D.N.Y., JUNE 21, 1973)

(includes Attachments 1, 2, and 3, to the Affidavit originally filed with the Court)

AFFIDAVIT OF RICHARD E. AYRES
STAFF ATTORNEY, NATURAL RESOURCES
DEFENSE COUNCIL, INC.

City of Washington, District of Columbia, SS:

RICHARD E. AYRES, being duly sworn, deposes and says:

I. Background

1. My name is Richard E. Ayres. Since August, 1970, I have been employed as a staff attorney for the Natural Resources Defense Council, Inc. ("NRDC"). Beginning in January, 1971, I organized and have since devoted virtually my entire professional attention to NRDC's Project on Clean Air, a national citizens effort to assure the rapid and effective implementation of the Clean Air Amendments of 1970.

2. The Project has been one of NRDC's major commitments of energy and resources. Since 1971, three full time persons, and numerous part-time paid and volunteer students, have been helping in the preparation of educational materials concerning the provisions of the Clean Air Amendments, in disseminating these materials, and in generally keeping in contact with local groups throughout the country to inform them of new federal regulations and policies affecting the implementation of the Act. In addition, the Project has consumed about three-fourths of the time of a second NRDC attorney since approximately November, 1971, and about one-third of the time of a third NRDC attorney so far in 1973. To date, NRDC has expended approximately $100,000 in staff time and other expenses in its effort to insure strong administration of the Act.

II. Activities

The Project's activities span the gamut from education through litigation, and include extensive participation in federal and State rule-making proceedings, testimony, on invitation, before legislative bodies, and public speaking engagements.



1. One of the primary purposes of the Project has been to educate the public to the far reaching ramifications of the Clean Air Amendments, and to the specific legal rights and opportunities it gives for citizen action to assure that the intent of the Act is met. In September, 1971, the Project published a widely acclaimed citizens Manual, "Action for Clean Air" [Attachment 1], explaining in the provisions of the Clean Air Amendments and how citizens could use them to obtain the best possible State Implementation Plans (required by Section 110 of the Act, 42 U.S.C. §1857c-5). Nearly 5,000 copies of this Manual were distributed throughout the country, to citizens, citizens' groups, and State and federal governments. The federal Environmental Protection Agency itself ordered more than 700 copies of the Manual.

In January, 1973, NRDC published a second manual, "Transportation Controls for Clean Air." [Attachment 2]. This Manual provided information for citizens on the Amendments' requirement for transportation control programs as a means to attain the National Air Quality Standards mandated by the Act. About 3,000 copies of the Manual have been distributed, some 500 of them to federal air pollution officials.

In addition to its manuals, the Project has published, in the NRDC Newsletter, an analysis of the unique citizens' suit provision of the Clean Air Amendments, Section 304, 42 U.S.C. §1857 . [Attachment 3].

To help reach relevant citizens with its informational materials, NRDC has established an extensive network of contacts with some 400 citizens groups across the country. Besides its Manuals and Newsletter, NRDC makes irregular mailings to bring citizens up to date on new developments at the federal level that affect their local air pollution programs.

Project personnel and NRDC staff attorneys have been widely sought after to represent environmental interests in speeches before conferences and citizens gatherings. During the Fall of 1971, I traveled to Minnesota, Louisiana, Indiana and Kentucky to address citizen conferences called to consider proposed State Implementation Plans, and addressed the Environmental Section of the American Society of Mechanical Engineers on the Clean Air Amendments. David Hawkins, another NRDC clean air attorney, has addressed the Air Pollution Control Association Government Affairs Seminar on the Clean Air Act, the First National Conference on Automotive Air Pollution Control, and the New England Consortium on Environmental Protection.

2. NRDC has participated extensively in the administrative process implementing the Clean Air Amendments, at both federal and State levels. NRDC has submitted formal "comments" on virtually every important rule-making proceeding undertaken by the Environmental Protection Agency ("EPA") since the Amendments were passed in 1970. [A full list is appended at Attachment 4.]

The Project has also participated extensively in the special administrative proceedings, some of them concerning the transportation controls required by Section 110(a)(2)(B) of the Act (42 U.S.C. §1857c-5(a)(2)(B)), called for by the Act. The Act requires that "State Implementation Plans" be submitted to EPA, and that EPA shall disapprove them if they do not meet detailed requirements spelled out in the law. Section 110(c) and 110(a)(2), 42 U.S.C. §1857c-5(c) and §1857c-5(a)(2).

In January, 1972, all 50 States and several territories submitted Implementation Plans for the control of pollution from stationary sources. Shortly thereafter, NRDC submitted a lengthy and detailed analysis of some 24 of these Plans, pointing out weaknesses which we felt required disapproval of them, at least in part. Some of the Project's criticisms were heeded in EPA's



subsequent rule-making with respect to the Plans (37 Fed. Reg. 10842 (May 31, 1972)); others became the subject of litigation (see Point 5 below).

In April, 1973, the States with the most serious problems related to automobile pollution submitted Implementation Plans providing for transportation controls. These Plans detailed the measures States would take to curtail emissions from used cars and trucks, and to reduce the total number of vehicle miles travelled in urban centers, in order to control pollution from these sources. Many of these Plans were based heavily on increasing the use of mass transit facilities, while discouraging the use of the private automobile for commuting. In its extensive comments on these Plans, NRDC pointed out repeatedly that the only reliable, effective means to insure the attainment of the National Air Quality Standards was massive expansion and improvement of mass transit facilities. In its commnets on the New York State Transportation Control Plan, NRDC noted particularly the need for expansion, rescusitation, and refurbishment of the New York City region's mass transit facilities [see Attachment 5].

During 1972, the major auto makers sought extension of the deadlines for meeting the stringent emission standards for new cars mandated by the Act. By law, this request became the subject of national public hearings before the Administrator of the EPA. NRDC's David Hawkins participated heavily in these hearings, testifying against the requested extension, which was denied. When the request was renewed in 1973, Mr. Hawkins once again testified before Mr. Ruckelshaus, though this time the extension was granted.

3. The Project has participated extensively in State proceedings pursuant to the Clean Air Amendments as well.

During 1971 and early 1972, NRDC attorneys and other staff testified on the proposed State Implementation Plans for the States of New York and Connecticut, and for the National Capital Region, and submitted comments to State agencies on proposed Implementation Plans for a number of other States. Detailed analyses of State Plans for stationary sources were submitted to a large number of citizens' organizations, to aid them in the preparation of their own presentations in State hearings on the proposed Plans. In 1973, similar work was undertaken with respect to State Plans for the control of pollution from motor vehicles. Two members of the Project staff testified before New York State authorities on the State Transportation Control Plan for New York [testimony appended as Attachment 6].

4. NRDC attorneys and staff members have also testified extensively, by written invitation, in Senate "oversight" hearings designed to oversee EPA's implementation of the Clean Air Amendments. Richard Ayres testified at length before the Senate Subcommittee on Air and Water Pollution, authors of the Act, on February 16, 1972. Later, David Hawkins testified in the same series of hearings with respect to EPA's implementation of Title II of the Act, regarding motor vehicle emissions. Hearings before the U.S. Senate Subcomm. on Air and Water Pollution, Comm. on Public Works, "Implementation of the Clean Air Amendments of 1970," 92nd Cong., 2d Sess. (1972).

In 1973, Mr. Hawkins testified again before the Senate Subcommittee on Air and Water Pollution, this time with respect to the inadequacy of EPA's budget requests to carry out the program of the Clean Air Amendments. This testimony



has not yet been published.

5. NRDC's Project on Clean Air, in conjunction with a large number of citizens and citizens' groups throughout the country, has also engaged in important litigation testing EPA's interpretation of the Act with respect to both motor vehicles and stationary sources. [A full list of these cases is appended as Attachment 7.] In bringing these cases, NRDC joined local air pollution groups and private citizens across the country in seeking more rapid and effective administration of the Clean Air Amendments. [A list of the groups and individuals who were co-petitioners in these cases is appended as Attachment 8.]

A number of these cases are of particular interest here because they dealt with the relationship between clean air and the use of private automobiles and mass transportation.

In 1971, NRDC brought suit against the Administrator to protect the statute's requirement that 1975 and 1976 automobiles produce 90 per cent less hydrocarbons and carbon monoxide, and nitrogen oxides, respectively, than those built in 1970. NRDC contended that, by re-evaluating the measurement method for 1970 cars, the Administrator had in effect allowed 1975 and 1976 cars to emit more than twice as much of these pollutants as Congress had intended. The District of Columbia District Court, faced with complex technical judgments, declined to gainsay the Administrator's judgment on this point.

In 1972, in a series of cases titled NRDC, et al., v. EPA, NRDC joined a large number of citizens and air pollution control groups in bringing suit to overturn the Administrator's

Richard E. Ayres

Richard E. Ayres
Staff Attorney
Natural Resources
Defense Council, Inc.

SUBSCRIBED AND SWORN to before me this 12th day of June, 1973.

Notary Public

My commission expires January 31, 1975.

BEST COPY AVAILABLE



blanket decision to grant an additional two years to the States for attaining the National Air Quality Standards for automotive-related pollutants wherever they could not attain them without transportation controls. Ruling on some eight of these suits,* the Court of Appeals for the District of Columbia reversed the Administrator's decision. NRDC, et al., v. EPA, -- F.2d --, 4 ERC 1945, 41 U.S.L.W. 2400 (D.C. Ci.., Jan. 31, 1973). Because this decision re-established the statutory requirement to meet National Air Quality Standards by 1975, it has increased dramatically the need to refurbish and expand mass transit facilities in order to comply with the law.

NRDC also brought suit against the Administrator in 1971 to stop EPA from postponing the issuance of regulations phasing most tetraethyl lead out of gasoline in 1974. NRDC v. EPA, Civ. No. 72-2233 (D.C. Cir.). On April 27, 1973, the Court gave EPA 60 days to take final action with respect to these regulations.

As Attachment 7 shows, NRDC has been a petitioner in a large number of cases under the Clean Air Amendments in every federal Circuit, and some federal Districts. In some of these cases, NRDC has been the only petitioner, while in others it has been joined by other co-petitioners. In none of these cases has standing been denied by the Court.

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* Identical suits were brought in all federal Courts of Appeals because of ambiguous language in Section 307 of the Act with respect to jurisdiction; on motion of Petitioners, a number of these were transferred to the D.C. Circuit. After the D.C. Circuit's opinion was published, and the EPA agreed to abide by it, the remainder were voluntarily dismissed.

## PREFACE

The Clean Air Amendments of 1970, passed by Congress late last year, provide the most far-reaching legal authority ever enacted to control air pollution. Though not perfect, the 1970 Amendments at last provide us with adequate tools for an effective national campaign against air pollution.

Even the best legislation, however, is only as good as its enforcement. How well the Clean Air Amendments are implemented will depend not only on the performance of local, State and federal agencies, but on the quality and persistence of citizen participation as well. Only by maintaining informed and insistent public pressure can we be certain that the opportunities provided by the new law will be fully exploited.

The Project on Clean Air was begun by the Natural Resources Defense Council to help citizens bring this kind of pressure to bear. To help make citizen participation more informed and effective, the Clean Air Project – with help in technical matters from the Scientists' Institute for Public Information – will distribute detailed information designed to make the provisions of the Clean Air Amendments and their related documents more understandable to laymen and to lawyers whose specialty is not environmental law.

Project activities will parallel the implementation of the Amendments. Early this year the Project filed detailed comments on EPA's proposed regulations setting National Air Quality Standards and Guidelines for State implementation plans. Current projects are designed to help citizens participate in the formation of the State implementation plans that must be submitted to EPA by January 30, 1972. After January, we will distribute information on how citizens can obtain monitoring data and help enforce compliance with the implementation plans.

The Project will continue to monitor and comment on federal compliance with the Clean Air Amendments by EPA and the Administration and keep citizens informed of how developments at this level affect them. We will also refer citizen groups to attorneys in their area who have offered their assistance, give advice in cases undertaken by citizens, and in a few cases, intervene on our own.

This Manual is intended to help citizen activists exert the maximum influence on their State implementation plans this fall. Because the 1970 Amendments and the federal Guidelines are complex, our discussion of them is necessarily complex and does not make easy reading. We felt that the only way to help citizens deal with the many problems these documents will raise was to treat each problem in detail. We encourage you to read the Manual through, but much of it is intended mainly as a reference guide and is arranged so that the parts treating each problem can be referred to quickly.

Part I describes the Sections of the amended Clean Air Act that are of immediate concern to clean air groups. A timetable at the end of this part summarizes important deadlines set by the Act. Part II suggests ways for citizens to influence State implementation plans. Part III discusses the federal Guidelines and treats in detail each element of an implementation plan required by the Act and the federal Guidelines. Part IV describes the exemptions and variances allowed by the Act and Guidelines. Part V describes how and when implementation plans must be approved and legal responses to inadequate plans and unwarranted exemptions. Parts III, IV and V suggest specific actions to be taken in response to the problems they raise. The Appendices contain additional helpful information, including sources of literature and example regulations for implementation plans.

Additions and (we hope few) corrections to the Manual will be made through the fall. If the Manual raises further questions, or if you encounter problems we haven't dealt with, contact us and we will try to find answers.

– Richard Ayres
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September, 1971

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# I. INTRODUCTION TO THE LAW

If you are to be effective advocates for clean air in the State procedures for writing an implementation plan, you must know the general outlines of the amended Clean Air Act.[1] The first purpose of this Part is to provide a clear exposition of the Act in laymen's terms.

This Manual is no substitute for legal advice, however. Your efforts will be far more effective if you have an attorney working with you. Our second purpose, then, is to provide an introduction to the Act for attorneys, to allow them to use the Act with a minimum of waste motion.

## A. CHANGES FROM THE 1967 CLEAN AIR ACT

By September, 1970, a combination of cumbersome procedures, ineffective enforcement provisions and the unwillingness of the Department of Health, Education and Welfare to fully use its powers had contributed to the failure of the Clean Air Act of 1967 to keep up with the growing air pollution problem.

In response to mounting concern, Congress stepped up the national campaign against air pollution by passing the Clean Air Amendments of 1970. These Amendments transform the 1967 Act into a much stronger and more comprehensive program for pollution abatement. In at least seven important respects, the Amendments fundamentally alter previous policy.

The Clean Air Amendments are primarily the product of Senator Muskie's Subcommittee on Air and Water Pollution of the Senate Public Works Committee. Hearings before the Sub-Committee run to five volumes, and the Committee Report (*Senate Report* 92-1196) to more than 100 pages.[2] Throughout these documents, witnesses and Senators repeatedly expressed their concern over the crisis proportions of the threat to health posed by present levels of air pollution.

The Senate Report states clearly that Congress intends, in the Clean Air Amendments, to rid the country of a major health problem. (See especially pages 1-4, 9-15 of the *Report*). Thus, the Clean Air Amendments are no ordinary legislation—Congress plainly felt it was dealing with an important and pervasive problem, and made it clear that this legislation was not to be treated lightly by federal and State administrators.

This heightened concern was translated into major changes in the requirements governing administrators' actions, and in the distribution of authority for air pollution control.

The 1970 Amendments make significant inroads on the formerly prevailing "air management" concept of pollution control. "Air management" means that the governmental agency responsible for pollution control determines what the "ambient air quality"—the general or average pollution—is in its region, then sets emission controls on individual pollution sources in an attempt to bring its ambient air quality into conformity with a State or federal standard. The drawbacks of this approach are that the ambient air quality for an entire region is difficult to measure accurately, and that it is hard to determine which controls on individual sources will yield the desired air quality.

The new Act partially rejects this concept. Instead, in Sections 111 and 112 it requires the federal government to go directly to the polluting industry, setting uniform national standards for emissions from entire categories of "new sources" of pollution (plants being built or modified) and emitters of "hazardous pollutants" (such as asbestos, beryllium, or mercury). These standards will require each polluter to install the best available control technology, regardless of the air quality in the region where he locates his plant. Since these standards will apply to all plants built or modified in the future, they will gradually come to control air pollution from most sources throughout the country.

The "air management" concept has been retained for State pollution control efforts, but it has been considerably modified by the 1970 Amendments.

Under the 1967 Act, air quality standards were to be set at levels which protected public health, but States were directed to take into account the costs of control. Under the 1970 Act, air quality standards are to be set at levels which will protect public health and welfare, without reference to the costs of attaining them.

[1] The Clean Air Amendments of 1970 amended the Clean Air Act of 1967. In this Manual, except where we specify otherwise, we use "Clean Air Act" to mean the 1967 Act as changed by the 1970 Amendments; "Amendments" means the 1970 Amendments alone.

[2] These documents can be ordered from the sources listed on page 71.

The 1970 Amendments have also considerably broadened the role of the federal government in setting standards for air quality, overseeing State attempts to reach these standards, and enforcing them when the States fail to. Under the new Act, minimum standards of air quality are uniform and national; States may set even stricter standards, but all sections of their territory are subject to the national standards. The federal Environmental Protection Agency (EPA) exercises veto power over State plans designed to meet these standards, and may promulgate its own plan if the State's plan is inadequate. Perhaps most important, the federal government now has the power to enforce State emission controls, and even whole State plans if violations are so widespread that it appears the State has failed to enforce its plan altogether.

One of the strongest themes running through the hearings on the Amendments, the Senate Committee Report, and the Amendments themselves is Congress' endorsement of citizen pollution control efforts. Public hearings are required on States' control plans and on all subsequent revisions. Citizens are guaranteed a role in enforcing these plans by the citizen suit provision, which gives citizens the right to sue in federal court polluters who fail to comply with State emission control regulations.

The Amendments have also corrected one of the most galling weaknesses in the 1967 Act by setting specific timetables for compliance. The Amendments require both that States develop and carry out plans by certain times, and that these plans set definite timetables for each polluter to comply with the plans' requirements.

Finally, the Act adds a specific requirement that States go beyond merely controlling emissions from the smokestacks of polluters and use such measures as land use and traffic controls and control of the sulfur content in fuels, if necessary, to reach national air quality standards.

## B. SUMMARY OF THE 1970 AMENDMENTS

The following summary is an introduction and a quick reference guide to the provisions of the 1970 Amendments that are of immediate concern to citizens. In the end, however, for an adequate working knowledge of the law, there is no substitute for careful reading of the full text of the Act, the Senate Report and the Guidelines.

### 1. *Air Quality Control Regions (Section 107)*

The 1970 Act retains the concept of *Air Quality Control Regions*, geographic areas in which a single air pollution control strategy will be followed. Some AQCR's were designated under the 1967 Act; under the 1970 Amendments the remainder of the country has been divided into regions. Many AQCR's include parts of several States in recognition of the fact that these areas share common air pollution problems that require coordinated solutions.

### 2. *Air Quality Standards (Sections 108 and 109)*

Under the 1967 Act, the federal air pollution control agency was required to publish technical documents to guide the States in setting air quality standards and developing implementation plans. *Criteria Documents*[3] were studies describing the concentrations of pollutants and lengths of exposure which produce specific adverse effects to health and welfare. *Control Technique Documents*[3] were summaries of the existing technological means for controlling given pollutants. The Criteria Documents, first published under the 1967 Act, provide the basic information on which national air quality standards are based.

The 1970 Act removed standard-setting power from the States, requiring EPA to set two types of *National Ambient Air Quality Standards*. *Primary Standards* were to be set at levels which, based on the Criteria Documents, are adequate to protect human health. These Standards must be achieved within three years of the approval of a plan implementing them (sometime in 1975 for most States). The *Secondary Standards* were to be set at levels to protect human "welfare" values. Congress intended these Standards to safeguard *all* values other than health, including visibility, plant and animal life, buildings and materials. Secondary Standards must be achieved within a "reasonable" time period, whose length is not specified. National Standards are expressed as permissible annual average concentrations, with short-term maximum concentrations which may occur only a certain number of times a year.

Under the 1967 Act, Criteria and Control Documents were published for five pollutants: hydrocarbons, sulfur oxides, photochemical oxidants, carbon monoxide and particulates. Nitrogen oxides were added to this list this year.

Standards for the six major pollutants were set on April 30, 1971 (they are listed at page 61). The Administrator must add to this list any other pollutant he finds dangerous to public health or welfare. Within one year after a pollutant has been listed, he must propose Standards for that pollutant and simultaneously issue Criteria and Control Documents. Proposed Standards must be made final after a 90-day comment period.

There has been considerable controversy about the levels at which the Standards have been set. Knowledge is admittedly incomplete, but past patterns demonstrate overwhelmingly that new research will uncover harmful health and welfare effects at ever low concentrations. Recognizing this, Congress provided for periodic revision of the Standards to reflect new knowledge, and directed that the current Standards be set to err on the side of caution. Primary Standards must leave an "adequate margin of safety" between allowable and known harmful levels, and Secondary Standards must protect from "known or anticipated" harmful effects.

On the whole, the Standards have been established at or just below levels where harm has been shown to occur to health and welfare. If anything, these Standards give less protection than suggested by the phrases Congress chose to describe the standards it wanted.

In effect, the Standards represent a federal ceiling on pollution. They are an effort to make pollution control uniform and to set adequate bases for abatement. They do not, however, prevent States from setting better standards. States are encouraged to set more stringent standards if they think their regions require them, or to protect regions with air quality already above the national Standards. This principle of "non-degradation" of presently pure regions has particularly strong support from Congress.

### 3. *Implementation Plans (Section 110)*

The Act requires each State to formulate an air pollution abatement plan for each air quality control region or part of one with the State boundaries. These *Implementation Plans* must set out in detail how the State intends to achieve and maintain the National Air Quality Standards in the required time. The Act requires one plan for meeting the Primary Standard and another for meeting the Secondary Standard, for each of the six pollutants, in each AQCR in the State. (In practice, many of the plans will be combined in single documents.) All plans must be written, subjected to public hearings and submitted to the federal Environmental Protection Agency for approval by January 30, 1972. EPA must approve or reject each part of the plan within the next four months. Any plan or part of a plan takes effect upon approval. If no plan or an inadequate plan is submitted, EPA must put its own into effect within six months.

Early in April, EPA proposed federal Guidelines elaborating on the requirements in Section 110 of the Act for the contents of implementation plans. These regulations were made final on August 14.

The Act and Guidelines require implementation plans to include these elements:

–A demonstration that the State air pollution control agency has *adequate legal authority* to carry out the measures of the plan. All laws and administrative regulations needed (with two exceptions) must be in effect at the time the plan is submitted to EPA.

–A *control strategy*. This must include a *survey* of the region's existing air quality and a detailed *inventory* of the emissions from all pollution sources in the region to help determine what kind of air pollution problem exists and what must be done about it. The control strategy must set forth all the *measures* that will be taken to make the region's air quality conform to the National Standards. These measures must include emission limitations, saying how much pollutant each source can emit, and other control procedures, such as process changes, fuel controls, land use and transportation controls, if they are necessary to meet the Standards. The control strategy must also include *timetables* for compliance with its control measures, and a *demonstration* that the control strategy will be adequate to meet the National Air Quality Standards in the required time.

–*Enforcement procedures* for making sure that the control strategy is followed.

–A *monitoring system*, including a network for sampling ambient air quality, and procedures for inspecting and monitoring emissions from each source of air pollution. Emission data must be reported to the State control agency, and these reports must be available to the public.

[3] See page 71 for ordering instructions.

–*Emergency procedures* for dealing with high-pollution crises.

–*Procedures for reviewing*–and *stopping*, if necessary–construction of new air pollution sources, modification of existing ones, and operation of all sources to be sure that they will not interfere with meeting an Air Quality Standard on time.

–*Procedures for revising the plan* when it is found inadequate, when new control techniques are found, when new Air Quality Standards are set, or when the State wishes to grant a variance from the original control strategy.

–*Procedures for inter-governmental cooperation*, including measures to insure that pollution from one region will not interfere with achieving Air Quality Standards in another.

–*Procedures for inspecting used autos* to enforce compliance with the control strategy.

–A demonstration that the State will have *manpower* and *funding* adequate to implement the implementation plan.

The Act and Guidelines require States to hold public hearings on any plan or revision of a plan before it is submitted to EPA for approval. Prominent notice of the hearing must be given and a copy of the proposed plan made publically available at least 30 days before the hearing date.

The Guidelines (section 420.3) also establish a classification system for AQCR's as Priority I, II or III regions, according to the severity of their pollution problems.

The Guidelines (section 420.7) also require submission of two series of reports beginning after a State's implementation plans are approved by EPA. Quarterly reports must contain information on current ambient air quality. Semiannual reports must describe current progress in carrying out the approved implementation plans and any revisions of rules, regulations or compliance schedules made in the plan.

4. *Extension Provisions (Section 110 of the Act, section 420.13 and Subpart C of the Guidelines)*

The Act and Guidelines provide for four different kinds of extensions:

–An 18-month extension of the deadline for submitting a plan implementing any National Secondary Air Quality Standard;

–A two-year extension of the time in which an air quality control region must comply with a National Primary Air Quality Standard;

–An extension of the time in which an air quality control region must comply with the National Secondary Air Quality Standard for sulfur oxides (the Act says the deadline must be a specified "reasonable time" after approval of the plan; the Guidelines say three years, but allow an extension of unspecified length if certain conditions are met);

–A one-year extension of the time in which certain sources must comply with certain measures of an implementation plan for either a Primary or a Secondary Standard.

All four extensions are hedged around with specific conditions and can only be granted by the Administrator of EPA.

5. *New Source Standards (Section 111)*

The Act requires EPA to first list, and after four months propose, performance standards for categories of stationary air pollution sources. Performance standards are limits on the amount of pollutant any source in these categories can emit, and must be set at levels requiring use of the "best system of emission reduction which (taking into account the cost of achieving such reduction) the Administrator [of EPA] determines has been adequately demonstrated." After another three months for comment from interested parties, the standards must be made final. The final standards apply only to "new sources," which are defined as any new construction of a pollution source and any modification of an existing source that will increase its emissions. They apply to construction or modification begun after the standards are proposed.

New source standards have so far been proposed by EPA for Fossil Fuel-Fired Steam Generators, Incinerators, Portland Cement Plants, Nitric Acid Plants, and Sulfuric Acid Plants, and final regulations are due in mid-November. EPA plans to expand the list of categories to about 40 within two years.

6. *Hazardous Pollutant Standards (Section 112)*

The Act requires EPA to set emission standards for hazardous pollutants, defined as air pollutants for which no National Ambient Air Quality Standard has been set, which cause increases in deaths and serious illnesses. These pollutants are first listed. After six months, emission standards for each are proposed, and after another six months, made final. No source can violate these standards unless it can demonstrate (1) that extra time is necessary to install control devices and that interim control measures will be taken, or (2) that adequate control technology is not available and continued operation of the source is vital to the national security. These extensions may last up to two years.

Three hazardous pollutants – asbestos, mercury and beryllium – have been listed, and proposed standards are due late in September. Other pollutants can be expected to be added to this list in the future.

7. *Federal Enforcement (Section 113)*

Section 113 of the Act details much-enlarged enforcement powers for the federal Administrator. Whenever he learns of any violation of a State implementation plan, he may, after due notice, issue a federal compliance order or commence a civil suit against the violator. Upon a finding that violations of a State plan are so widespread that they appear to result from a State's failure to enforce its plans, the Administrator may take over the Administration of the plan himself. He has similar powers to enforce the federal new source and hazardous pollutant limitations. Information leading to federal action may come from any source, including citizens.

8. *Federal Monitoring of Emissions Sources (Section 114)*

Section 114 of the Act outlines the monitoring powers that the Administrator is given in order to ensure compliance with federal emissions limitations or a State implementation plan. The Administrator may require a source owner to install emission monitoring equipment and report monitoring data and any other information requested to EPA. EPA is also given the right to enter any source, inspect monitoring and control equipment and sample emissions. The Act requires that any reports given EPA must be made available to the public. Information that would divulge trade secrets must be kept confidential, but *all* emissions data must be made available to the public.

9. *Title II of the Act*

Title II of the Act regulates fuel content and emissions from motor vehicles. It requires 90 percent reductions from 1970 carbon monoxide and hydrocarbon emissions standards by 1975, and similar reductions over 1971 nitrogen oxides levels by 1976. With the exception of California, the Act reserves regulation of new cars to the federal government, but States may regulate used car emissions.

10. *Citizen Suits (Section 304)*

One of the most important provisions of the 1970 Clean Air Act is the citizen suit provision. Section 304 of the Act allows any citizen to bring a civil suit against any polluter or governmental agency for failure to comply with emission limitations or a federal or State compliance order, and against the EPA Administrator for failing to carry out any "non-discretionary" duty under the Act. Federal judges may award attorneys' fees and litigation costs to any successful citizen plaintiff. In effect, Congress has for the first time made private citizens a vital part of pollution control enforcement.

## C. TIMETABLE FOR SUBMISSION AND APPROVAL OF IMPLEMENTATION PLANS

1. Enactment of Legislation – December 31, 1971

2. EPA designates Air Quality Control Regions – March 1, 1971

3. EPA promulgates Primary and Secondary Air Quality Standards – April 30, 1971

4. States formulate plans with hearings

5. States adopt plans for both Primary and Secondary Standards and submit to Administrator for approval – January 31, 1972

6. Administrator publishes proposed regulations for plan if:
   (a) State fails to submit plan when due.
   (b) Plan submitted does not fulfill federal requirements.
   (c) State does not revise prior submitted plan within 60 days of notification

7. If State fails to submit adequate plan within six months, Administrator promulgates final regulations

8. Administrator approves or disapproves plans by April 31, 1971

9. If plan approved, State enforcement

## II. CITIZEN ACTION

The purpose of this Part is to suggest ways in which citizens can achieve a single important goal – securing good State implementation plans. We will not deal here either with the problems of organizing and running citizen groups and coalitions, or with the rest of the broad range of concerns and activities of such groups.

Work on proposed State implementation plans is extremely important. The 1970 Amendments require States to draw together all their existing air pollution control measures, upgrade them where necessary to meet uniform federal law, present them at public hearings and submit them for federal approval. Once approved, a plan becomes the controlling set of rules for air pollution abatement for at least the next few years. This procedure makes the required hearings on proposed plans an important point at which the public can influence the entire control effort for each area and deal with specific problems that might not otherwise be publicly accessible. Opportunities missed during this phase will be difficult to make up after an implementation plan has been federally approved. This Part outlines some ways in which citizens can have the maximum influence on proposed plans.

### A. INFORMATION

Your first problem is information. If you haven't already, learn about the air pollution problem in your area, what has been done about it up to now, and what can be done in the future.

#### 1. *Know About Air Pollution*

First, a general knowledge of the kinds, sources and harmful effects of air pollution is essential. Two excellent sources of such information are the *Air Pollution Primer* published by the National Tuberculosis and Respiratory Disease Association, and the *Air Pollution Workbook* put out by the Scientists' Institute for Public Information. For detailed information on the harmful effects of the six pollutants now listed by EPA, federal Criteria Documents are valuable. See the bibliography for listings of these and other sources.

#### 2. *Know the Problem in Your Area*

Detailed technical understanding of the air pollution situation is difficult for those without technical training, but you should try to learn as much as possible about its essential elements: which pollutants are being emitted, in what quantities, when, and by what sources. You will also want information on how this situation is expected to change as a result of new construction, changing traffic patterns, and similar factors.

The best sources of information are the authorities charged with air pollution control in your area. The first of these, the regional office of the Environmental Protection Agency, probably will not have much detailed information, but it should be approached for whatever it has. A listing of these offices and the States in each region appears on page 70.

Regional, interstate, State and municipal air pollution control agencies should have the best information on local conditions. State agencies are required by the 1970 Amendments and the federal Guidelines to compile a survey of existing ambient air quality and a detailed inventory of emissions for each air quality control region in the State. Though these are due early next year, they are the first step in writing an implementation plan and should be finished well before the entire plan is completed. Even if the inventory and survey are incomplete when you ask, you may be able to get parts of them or copies of older data. Keep watch on progress with the survey and inventory so you can get them as soon as they are done. If you have difficulty getting them, remember that these agencies are responsible for keeping the public they serve informed and that these data are public information.

Make your requests for information detailed and specific. Ask for the most complete information available. In addition to data on existing levels of pollution and inventories of emissions, request information on past trends and predictions for the future, what sources are now in compliance with State law and which ones have been the subject of past complaints, studies of health effects of air pollution in your State and of the economic impact of proposed control measures. Obtain federal Environmental Impact Statements for any pending federal or federally-financed major projects which will affect air quality in your region and State.[4]

EPA has contracted with ten consulting firms to assist several States with their implementation plans. (A list of the firms and the States with which they are working appears on pages 68-9.) Approach them in the same

[4]Copies of Environmental Impact Statements may be obtained from NTIS, U.S. Department of Commerce, Springfield, Virginia 22151 and Environmental Law Institute, 1346 Connecticut Avenue, N.W., Washington, D.C. 20036.

way you would the State agency for information on your State's plan, including ambient air survey and emissions inventory data.

There are several other good potential sources of information. Try local or State chapters of organizations like the League of Women Voters, Tuberculosis and Respiratory Disease Associations, the Sierra Club and so on. Doctors in your area may know of health studies done on local pollution problems. Newspaper reporters may know about existing pollution conditions and might also provide valuable information on the political aspects of the situation. Professors at universities and research centers may be able to lead you to studies of local pollution problems.

3. *Know your Control Authorities*

You should also learn as much as possible about the organization of the air pollution control effort in your region and the people who staff it. Begin with the regional EPA office. These offices will play an important role as the federal representative in your region, particularly in enforcement. Implementation plans must be submitted through these offices, and they will be responsible for most federal enforcement of the Clean Air Act. New directors for many of the regions are now being appointed. Find out who they are, what qualifications they have and where their sympathies lie.

Learn as much as you can about the organization of the regional office, its staff and the functions it intends to perform. Try to establish contact with whomever in this office is responsible for your part of the federal region. Explain your organization and let these people know of your continuing interest in the implementation plan for your area and its enforcement.

Do the same thing with State and local air pollution control offices and whatever commissions, review boards and interstate or regional organizations exist. Your first concern should be with the State agency or agencies responsible for writing and submitting the implementation plan for your AQCR. If your region is an interstate one, remember that each State involved must submit a plan for its part of the region, but that these plans must be coordinated. You will want to pay attention to the plans for all parts of your AQCR and this will mean knowing all the agencies responsible for the plans, as well as any interstate authorities.

Next, learn about the local authorities. Proposed plans will have to state how these authorities will participate in enforcing the plan, and you will need to know them both to assess the plan and to monitor its implementation later on. Learn the structure and responsibilities of each of these organizations, and know the key personalities. Find out how well funded they have been and how they have performed, and learn as much as possible about their place in the political scheme of things. Develop contacts, particularly in the State agency, with the people responsible for the implementation plans, both as sources of information and as targets for your suggestions.

4. *Know Existing Air Pollution Laws*

Finally, it is important to become familiar with existing State and local air pollution control laws and administrative regulations. Implementation plans will be essentially statements of how these laws and regulations will be used to reach and maintain the Air Quality Standards. The federal Guidelines, with two exceptions, require that laws and regulations on which plans submitted in January are based must be in effect at the time of submission, and copies of these must be included in the plan. One of the major concerns in assessing a proposed plan will be to determine whether existing law is adequate to carry it out. You must also be equipped to deal with situations where existing law is clearly inadequate but the State is incapable of doing anything about it before January 30. Both problems require a working knowledge of existing law.

Some States have submitted implementation plans to EPA under the 1967 Clean Air Act. Twenty-one plans were submitted by fifteen States for thirteen air quality control regions. Section 16(a)(1) of the amended Act requires EPA to approve or reject these plans and to state how unacceptable parts must be revised. Though parts of the plans have been approved, none was accepted entirely, and States are given until January 30, 1972, to make the necessary revisions. Find out if your State submitted a plan, and what parts were accepted and rejected. Ask the regional EPA office for a detailed statement of the changes that must be made by January 30.

## B. GET THE PROPOSED PLAN

To make an adequate assessment of a proposed implementation plan and have real influence on its final content, it is essential that you obtain copies of the proposal as far in advance of the hearings as possible. Plans are sure to be long and complex, and your criticisms can be made in important ways well before the hearings, so give yourself as much time as possible.



Section 420.4(b) of the federal Guidelines requires State agencies to give "reasonable notice" of hearings on proposed plans. "Reasonable notice" includes, at least 30 days prior to the date of hearing(s):

- Notice given to the public by prominent advertisement announcing the date(s), time(s), and place(s) of such hearing(s) and the availability of the principal portions of the proposed plan, including, as a minimum, all rules and regulations which are proposed to be included in such plan, for public inspection in at least one location in each region to which the plan will apply.

- Notification to the federal Administrator (through the appropriate regional office).

- Notification to any local air pollution control agencies in each region to which the plan will apply.

- In the case of an interstate region, notification to any other States included, in whole or in part, in the region.

The Guidelines also require the State to submit a complete transcript of the hearings, copies of all advertisements or broadcasts giving notice of hearings, and a certification that the hearing was held. States are allowed to hold several hearings on proposed plans and to hold separate hearings for plans implementing Primary and Secondary Standards. The notice procedures apply to all such hearings.

These are unusually strong requirements for public notice. Often announcement of administrative hearings, if made at all, appears in the back page legal-notice section of newspapers just before the hearing date, and the proposals to be discussed are not released in advance. The Guidelines take care of these problems reasonably well, but the required procedures are not perfect and should not be relied upon to give adequate time to examine a proposed plan.

Thirty days may not be enough time; certainly more would help. Also, the Guidelines require advance availability only of "the principal portions of the proposed plan, including, as a minimum, all rules and regulations which are proposed to be included in such a plan." This is good as far as it goes; the rules and regulations are the heart of the plan. But it may mean that the agency won't (and won't have to) make available other elements of the complete plan, such as the ambient air survey data and emission inventory, the assessment of the resources needed and available for carrying out the plan, the description of the surveillance system to be used for monitoring ambient pollution levels or the assessment of the adequacy of the control strategy to achieve the Air Quality Standards in the allotted time. Finally, the Guidelines require not that copies of the proposal be distributed, but that one copy be made available for public inspection in each air quality control region. This will make it physically difficult to examine the plan, unless it can be copied in some way.

To a certain extent these provisions are no doubt geared to spare hard-pressed agencies extra work, but the shortcomings in these procedures and other tactics can be used by an uncooperative agency to hinder citizen participation. An agency might keep to the minimum requirements, giving 30 days notice and interpreting "prominent advertisement" as narrowly as possible, presenting only proposed rules and regulations and refusing to allow duplication of the public copy of the proposals. An agency might also stall giving notice for several days, present an incomplete version of proposed rules and regulations, introduce last-minute changes in a proposal, or, conceivably, fail to comply with the Guidelines at all.

It is a good idea, then, to take several other steps to make sure that you have adequate advance access to a proposed plan.

The most efficient way of dealing with the problem of getting a proposed plan in advance is to develop a working relationship with someone in the State agency who is responsible for writing the plan. In many cases agency officials will realize that informed citizen participation can only help them and will take steps to encourage it. Even if the head of an agency is distant, someone below him might be willing to cooperate. Building good relationships of this sort can be one of your most valuable accomplishments. You may be able to get copies of the proposed plan well in advance from an agency contact, and keep on top of changes made in it. You should also try to sit down with people from the agency to discuss your suggestions for changes in detail.

Even if such close contact seems unlikely, try as soon as possible to arrange a meeting with the State agency to discuss their plans for meeting the notice requirements. Remind them of the federal Guidelines and argue that wide public knowledge of the proposed plan is in their best interest, since it will help build public support to counteract industry pressure. Press them to print up and distribute copies of as much of the proposed plan as possible, or at least to allow duplication of the display copy.

Ask them to make public any changes in the proposal as soon as they are made, and to postpone the hearing if major changes are made just before the original hearing date. Examine your State's administrative procedure rules for any requirements for notice of hearings and advance publication of proposals that stiffen or extend those in the federal Guidelines, and point these out to the agency.

If the agency appears disinclined to follow proper procedure, complain immediately to the regional director of EPA and address letters to the head of the State agency, Administrator Ruckelshaus, your Governor, other political figures who might have an influence in the matter, and newspapers. Also, generate public pressure on the agency to comply with the Guidelines and to go beyond them, if possible. If, as a last resort, you consider the agency's inaction serious enough to warrant legal opposition to the entire plan, you should serve notice of your intention right away. Sometimes the threat of legal opposition can move an agency where persuasion will not. However, though sometimes effective as a prod to the agency, legal action in these circumstances is not to be preferred. See page 53 for a discussion of legal action over procedural irregularities.

## C. PREPARE A CRITIQUE OF THE PROPOSED PLAN

The next step is to analyze the proposed plan and prepare a critique. This is a tough job. Time is short even in the best circumstances, and you will be in the uncomfortable position of the layman criticizing procedures even the experts are not sure about. But the criticisms must be made, and there are a number of things citizens can do to make them influential and constructive.

In the first place, concerned citizens often need not go without expert advice at all. You may be able to get professional help in examining the legal and technical aspects of a proposed plan, and the fact that you have had such help will add considerable weight to your criticisms. Try to locate engineers, scientists and medical doctors who are willing to analyze the technical data and control measures of your plan. Graduate students in these fields may be particularly helpful.

You might also argue to the State agency or to EPA's regional office that you should be allowed free use of their scientific resources – for example, for explaining the assumptions underlying the control strategy or for evaluating your alternatives to their measures for reaching the National Standards. This contention may be greeted with surprise by the agencies, but you should remind them of Congress' statements that citizens are to be valued participants in the implementation of the Act.

Attorneys will be able to assess the provisions of proposed plans from a legal standpoint, determine adequacy of existing law to implement the plan, and help with any legal action associated with notice procedures or submission of the plans. Look for legal help the the faculties and environmental law societies of nearby law schools, the legal committees of groups like the Sierra Club and the environmental law committee of the State Bar Association. NRDC is also building a network of cooperating attorneys, some of whom will be available to help in their areas.

It is important to remember that, even with no technical or legal help at all, laymen are capable of reviewing key elements of proposed plans and making substantial constructive criticisms. Parts III, IV, and V of this Manual are designed in part to tell laymen where to look in a proposal for weaknesses and loopholes and how to correct them, and to suggest additional measures they can press for.

Section 420.5(c) of the federal Guidelines states that all or part of a proposed implementation plan can be submitted to EPA before January for a preliminary review. Requests for such review must be made in writing to the regional offices of EPA and the Guidelines recommend that they be made by the end of October. The introduction to the Guidelines says that results of the preliminary reviews will be made public. Find out from your regional office when such requests are made for your area's plan, and ask to be given copies of the draft submitted for review and copies of EPA's comments. Do this promptly and insist on receiving copies of all the relevant documents. The review can be extremely useful in your criticism of a proposed plan. If you have difficulty in getting copies of a review, contact the Project on Clean Air office in New York. We will attempt to get copies of all reviews made and distribute them to citizen groups.

Prepare a written critique of the proposed plan. Make it detailed, factual and concise. Follow each criticism of a part of the proposal with specific suggestions for improving it. List and present arguments for additions you think are necessary. Make specific reference to expert opinion, technical documents and basic documents like the 1970 Amendments, the Senate Report, the National Ambient Air Quality Standards, the Criteria Documents, the federal Guidelines and parallel State and local documents. Try to suggest specific legal language for revisions or additions to the regulations in a proposed plan. Example regulations appear on pages 62-7.

Prepare different versions of the basic critique for use with different audiences. Make the main points the core of each presentation. For purposes of public education, for example, these points might be expressed in their most general form and backed up with a demonstration of their importance to the average citizen. For press work, the main criticisms can be made in releases and documented in an attached fact sheet. For use with agency staff and at the hearings, the full version of the critique is best.

## D. USE THE CRITIQUE

Next you should begin using your analysis to have the maximum impact on the shape of the final plan. Much of this use – perhaps the most important parts – should occur before the hearings.

If your relations with the State agency are good, you should exploit them to the fullest before hearings. Send copies of your critique of the proposed plan to the agency and to the regional EPA office. Follow up with phone calls to the people responsible for writing the plan asking if the comments were received and if any points need clarification. Arrange meetings with these people, if possible, to discuss your critique in detail. Cover as much ground as possible in phone contacts or in meetings, asking whether your suggestions are being incorporated into a revised plan and what other changes are being made in the proposal before the hearings. Keep at it. Don't assume that your arguments will make it on their own. The more exposure the State agency has to your arguments, the more likely they are to penetrate. And the more forceful, persistent and sophisticated your arguments, the more seriously you will be taken by the agency. If used properly, a good relationship with the State agency can accomplish more than anything else you do.

At the same time that you prod the agency, make the proposed plan and your criticisms known to other people who can influence the agency. Send appropriate versions of your comments to right-minded politicians and press them to do what they can with the agency. Send copies of the critique to local air pollution authorities who will play a part in enforcing the final plan, and to other governmental entities charged with some aspect of air pollution control for your area. Trade comments with other conservation or environmental groups in your area who can be expected to bring pressure on the State agency. Publicize the most newsworthy items of your critique in the local media and incorporate the major points in any public education activities you conduct to build support. In general, the more widely known your position on the proposed plan, the more likely it is to be finally taken into account.

## E. HEARINGS

Appearance at the hearings will serve two purposes: to influence the content of the proposed plan and to serve notice that concerned citizens will be watching its implementation and enforcement. The second is as important as the first. It is popular now to predict that citizen involvement in air pollution issues will fall off after the initial surge of enthusiasm over the 1970 Amendments. A sure way to prove to control agencies, politicians and industry that these predictions are correct is to fail to appear in force at the implementation plan hearings.

The first step is to secure proper notice of each hearing held. The most conspicuous announcement possible will be important not only to give you adequate time to prepare but to help you mobilize public opinion and a large turnout at the hearing. Again, the notice provisions in the federal Guidelines are good, but don't rely on them alone. Follow the steps suggested on pages 11-12. Know your State rules governing public hearings. If you meet with the agency to discuss advance disclosure of the proposed plan, press them to broadcast announcements of the hearings on radio and television[5] and run prominent ads in major papers. Try for more than thirty days' notice. Make sure the same procedures are followed for each hearing to be held. Try to get a schedule of planned hearing dates as soon as possible. If you are told these are not fixed yet, keep trying. Your pressure may produce certainty sooner. The sooner you know the better. The Project on Clean Air will be assembling a list of schedules during the fall, and you will be sent information as it becomes available. If the agency is uncooperative or fails to give adequate notice, raise a

[5] Do not be put off by a claim that such broadcasts would be too expensive. Radio and TV stations are required to show the FCC how they are serving the needs of the community in order to keep their broadcast license, and most of them will be happy to make such announcements, often for free, in order to enhance their position with the FCC.





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public fuss and start writing letters. If the situation is serious enough, explore the possibility of legal action.

Arrange for witnesses to present your critique at the hearings. If lawyers, scientists, engineers or doctors have helped prepare the arguments, have them testify to lend maximum weight to your presentation. Though it may not be recited verbatim, make sure that the full text of your arguments, including whatever detailed material is necessary to back them up, is submitted as testimony in such a way that it appears in full in the transcript of the hearings. This transcript will be submitted to EPA along with the plan and constitutes the legal "record" upon which EPA must base its decision whether to approve the plan. Subsequent attempts to demonstrate that a submitted plan is inadequate, or legal action to overturn EPA's approval of an inadequate plan will rest entirely on the record of evidence presented at the hearings, so your arguments for that record should be as complete as possible.

Try to anticipate arguments that your opponents at the hearings will use. Pay attention to public pronouncements on the proposed plan by spokesmen for industry, and try to get copies of any written comments they make on the proposal. You will want to counter vigorously any public arguments made by industry before the hearings, particularly threats about the dire economic consequences of air pollution control. Some arguments might not appear until the hearings, though, and since your answer may not be written into your basic comments, you will want to be able to add them to your testimony on the spur of the moment.

Stimulate as large a public turnout at the hearings as possible to support your views. If you do not think the agency has given adequate notice of the hearings, do it yourself. Urge other citizens' groups to appear at the hearings. If they are not preparing their own testimony, try to get them to make statements supporting yours. If they can not appear at the hearing, have them mail their statements in. Statements presented in writing, even by mail, become part of the record just as if presented in person.

### F. AFTER THE HEARINGS

Don't quit after the hearings. Usually the period for submitting evidence to the record extends after the hearing. Keep building your case by having other groups send supporting statements.

Start immediately trying to find what changes are being made in the proposed plan as a result of the hearing. Keep after any contacts you have in the agency. If you find that something you favor isn't being done, keep arguing for it. Find out when transcripts of the hearings and copies of the final plan will be available and put in requests for them. If the transcript is incomplete or the final plan does not take account of your arguments, make your objections public and put pressure on the agency. Send a letter stating your objections, along with copies of your comments, to your Governor, your regional EPA office, Administrator Ruckelshaus and anyone else who might be able to influence the agency before submission of the final plan. If the final plan is seriously inadequate, consider taking the legal action discussed on page 53.

In some cases, the preliminary review of a proposed plan by EPA will be completed after the hearings. It is still important to get a copy of the review and use it where possible to press the agency for needed changes.



## III. CONTENT OF THE PLAN

This Part deals with the elements of an implementation plan required by the Act and the Guidelines. Since the final Guidelines are not required under the Act, and since they elaborate so extensively on the Act's provisions, an introductory discussion of them is important.

### A. THE FEDERAL GUIDELINES

Even though not required by the Act, promulgation of the Guidelines was entirely within EPA's discretion, and the final regulations have the force of law.

On April 7, EPA published proposed Guidelines. By late June, EPA was ready to publish Guidelines that had been revised in response to comments from a broad range of interested parties. Substantial improvements had been made:

–"Reasonable notice" of public hearings was extended from 21 to 30 days and defined to include prominent announcement and 30 days' advance public availability of proposed implementation plans.

–A statement of policy favoring non-degradation was added, using the same language as the non-degradation clause in the National Ambient Air Quality Standards.

–Requirements were added for public availability of emissions monitoring data reported to control authorities.

–Requirements for compliance schedules and conditions for variances and exemptions were tightened.

–Use of low-sulfur fuel–a prime means of controlling $SO_2$ pollution–was encouraged more than in the April 7 proposal.

–Appendix B, containing detailed example control regulations to which several exemption procedures were keyed, was strengthened.

Shortly before final publication, the revised Guidelines were pulled into the White House Office of Management and Budget for what was described as a "routine review". One and one-half months later, Guidelines were finally published that had been weakened considerably in several important ways. We believe changes were made in response to heavy industry pressure and comments from federal agencies–among them the Federal Power Commission, Department of Defense and the Commerce Department–that were made well after the formal comment period was over. There was no public access to this review.[6]

In our opinion, some of the changes are not binding because they run counter to the letter and spirit of the Act. Some sections deleted from the final regulations, moreover, should have been retained.

The largest change in the Guidelines resulting from OMB's "review" was the insertion of language encouraging consideration of the costs of pollution control in writing a control strategy. These changes leave the Guidelines perilously close to, if not beyond, the limits of what the Act will allow, and may have serious practical effects on the quality of State implementation plans. The changes fall into three categories:

1. Sections 420.2(b) and 420.10(a) both encourage consideration of the "cost-effectiveness" or the "costs and benefits" of alternative control strategies.

2. Several parts of the Guidelines contain new language encouraging States to consider the "social and economic impact" of a control strategy before adopting it:

–section 420.2(d) so encourages, and expands "social and economic impact" to include "impact on availability of fuels, energy, transportation and employment."

[6] Skeptics will note that EPA has furnished us printed proof of the existence of a revised version of the Guidelines that was about to be published when the Office of Management and Budget stepped in at the last moment. In Appendix L of the final Guidelines (page 15504 of the *Federal Register*), in the midst of suggested regulations for emergency episode control plans, appear sections 1.6, 1.7, 1.8 and 1.9. These regulations have nothing to do with emergency procedures. They are *similar* to regulations that appeared in the original, April 7, proposed Guidelines, but not the same. Part of EPA's revised version of the original Guidelines, they were cut by OMB and appear in Appendix L by mistake because they were set up in type next to the emergency regulations. The fact that they were set up in type indicates how close the revised version of the Guidelines was to publication when OMB intervened.

–section 420.1(o): "reasonably available control technology" is defined as devices permitting attainment of the emissions limitations in Appendix B, provided that, in requiring such devices, the State consider the social and economic impact of those limitations. This definition reappears in key places throughout the Guidelines:

> –in section 420.14(c)(3), requirements for nitrogen oxide control measures are keyed to the definition;
>
> –granting of the 18-month deadline for submitting a plan for Secondary Standards is contingent in part on existence of reasonably available control technology;
>
> –the deadline for compliance with a Secondary Standard plan is dependent on the existence of reasonably available control technology and the social and economic impact of its application.

It can be inferred from the Act and its legislative history that Congress did not intend this kind of language to influence air pollution control efforts. The House version of the 1970 Amendments was peppered with phrases such as "giving due consideration to the economic and technological feasibility of compliance." The Senate-House conference committee cut all such wording from the final version of the Amendments (with the sole exception of a reference to cost considerations in Section 111, the federal new source standards section). This was plainly deliberate. Congress meant for the new source performance standards to be determined partially by economic considerations, and it meant for State emission limitations to be determined by considerations of public health and welfare.

Thus the phrase "reasonably available control technology" does not appear anywhere in the Act in connection with National Air Quality Standards or State implementation plans. The Senate Report uses this phrase in connection with the federal new source standards, but the Guidelines distort the meaning given it there. As the Senate Committee described "reasonable availability," it was meant to require the best technology presently available. "Availability" did not mean

> "that the technology must be in actual, routine use somewhere. It does mean that the technology must be available at a cost and at a time which the Administrator determines to be reasonable."[7]

The Guidelines state that the emission limitations in Appendix B can be met with what the Administrator considers to be "reasonably available control technology." Presumably, in arriving at these limitations, the Administrator has already considered, as the Senate Committee suggested, the cost of the technology needed to meet them. Yet the Guidelines go on to say that, in considering the application of the Appendix B limitations and their corresponding technology, States may *again* consider their cost. This is not merely redundant. It encourages States to reject for economic reasons technology that has already been adjudged "reasonably available" by EPA, a result that Congress almost certainly did not intend.

This will have serious practical effects. Because of the difficulty of saying which emissions limitations must be applied at a source in order to meet a given Air Quality Standard, uncertainty usually exists in deciding which device to use for a given source. Frequently several devices, of different efficiencies and costs, are available. Congress' use of "reasonable availability" was not meant to allow EPA a choice in setting new source standards between a more and a less efficient device on grounds of their relative cost, *unless* the more efficient device was so much more expensive as to impose a virtually impossible financial burden. Congress could hardly have meant for EPA to import a less stringent concept of "availability" into State emission limitations through the back door. Precisely because of the technical uncertainty about which device to use to reach a Standard, and because of the urgency of combatting the air pollution crisis, Congress intended that States' control efforts, aimed towards meeting health and welfare standards, err on the side of caution and use the more expensive and more effective device. There was to be no cost-effectiveness juggling between two devices both of which could be afforded, yet this is exactly what the language of the final Guidelines now appears to condone.

The language also gives polluters more leeway to make the typical arguments about the dire economic effects–to themselves, their employees and the economy–of using the best available technology. Most of these arguments are not true to begin with; most plants will not close down if they are forced to clean up as much as possible. The recent Annual Report to Congress of the President's Council on Environmental Quality estimates that the average cost to industry of controlling emissions will amount to less than seven percent of their capital investment. That some plants will close down, however, is not necessarily undesirable. In passing the 1970 Amendments, Congress made it clear that it was responding to a crisis situation, and that bold changes were necessary to cope with it. Marginal operations that survive by polluting free of charge *should* close down. The Senate Report says:

> "In the Committee discussions, considerable concern was expressed regarding the use of the concept of technical feasibility as the basis of ambient air standards. The Committee determined that 1) the health of people is more important than the qestion of whether the early achievement of ambient air quality standards protective of public health is technically feasible; and, 2) the growth of the pollution load is many areas, even with the application of available technology, would still be deleterious to public health. Therefore, the Committee determined that the *existing sources of pollution should either meet the standard of law or be closed doun...*"[8]
> [Our emphasis]

The "social and economic impact" language of the final Guidelines lets polluters retreat to less disruptive, cosmetic control measures when what may well be required is stronger measures that may have a pronounced, but desirable, impact.

There is very good evidence that EPA, despite the final Guidelines, thinks along the same lines. In a March, 1971 document called "Necessary Legislative Considerations for Coordinated Local, State and Federal Air Pollution Control Programs," they refer to language common in existing State law requiring control authorities to consider

> "the character and degree of injury to, or interference with ... the rightful conduct of business, and the physical property of the people; the social and economic value of the air pollution source ... and the technical practicability and economic reasonableness of reducing or eliminating the emission resulting from such air pollution sources."

"In our opinion," says EPA,

> "this type of provision is inappropriate for an air pollution control law. Such a catalog of considerations represents an unaccountable disgression from the proper emphasis of the law. The thrust of the law should be protection of public health and welfare, first and foremost. *In some instances, for example, air pollution can so endanger public health that abatement is necessary even if no practical and economical method of control is available.* Considering the hazard to public health and welfare presented by air pollution such a recital in the law cannot be permitted to prevail over actions necessary to protect the public. Such an unfortunate enumeration places a cloud on the entire system of the powers to prevent and control air pollution under the law."
> [Our emphasis]

3. As a replacement for the original non-degradation clause, the final Guidelines now discourage

> "a State to prepare, adopt, or submit a plan which does not provide for the protection and enhancement of air quality so as to promote the public health and welfare and productive capacity."

In their use of the phrase "productive capacity," the Guidelines pervert a phrase which was used previously. In Section 101, Congress lists the purposes for passing the Act. Section 101(b)(1) says that one of the purposes was

> "To protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the *productive capacity of its population....*" [Our emphasis]

This phrase is hardly ambiguous – it means that the point of the Act was to protect the health of the people. Healthy people are more productive, and thus adding the phrase "productive capacity of its population" amounts to restating the same point.

By truncating the phrase, the Guidelines suggest that "productive capacity" means the productive capacity of industry. You should be on guard to prevent your State agency

[7] *Sen. Rpt.* at 16.

[8] *Sen. Rpt.* at 2–3.

from adopting this reading of section 420.2(a). Make sure that you point out the true meaning of the phrase, both to the agency and to the public, so that the Guidelines' suggestion does not become the guiding interpretation in your State's proceedings.

Finally, remember that you may be able to turn to your own advantage the phrase "social and economic impact," as it appears in sections 420.2(d) and 420.1(o) of the Guidelines. The social and economic impact of weak pollution controls can be demonstrated to be worse than the impact of imposing strict controls. The Council on Environmental Quality Report estimates that the costs of air pollution to every man, woman, and child in the United States amounts to more than $80 per year, or some $16 billion total annually. By contrast, the CEQ estimates that the total cost of reducing pollution over the next five years should come to only about $23.7 billion, or less than $8 billion annually.

Several other serious changes made through OMB deleted important sections of EPA's revised Guidelines. A requirement for authority to institute permit systems for construction of new stationary sources and modification of existing ones was deleted. The pollutant concentrations used to designate Priority I areas were raised substantially, thereby making fewer air quality control regions susceptible to the fullest requirements of the Guidelines. The utility and suggestive power of Appendix B was reduced substantially. Most of the first section of the Appendix, containing example administrative regulations for implementing a control strategy, was cut. The suggested emission levels for each pollutant in the remaining sections of the Appendix no longer appear as regulations and thus lose much of their suggestive force. We have attempted to fill the gap left by these changes by including on pages 62-7 example control regulations based heavily on those originally recommended by EPA.

## B. LEGAL AUTHORITY

Section 110(a)(2)(F)(i) of the Act says that an acceptable implementation plan must provide "necessary assurances that the State will have adequate . . . authority to carry out [the] implementation plan." The Guidelines specify what kinds of authority the State must have.

Section 420.11(a) requires States to have authority to:

- Adopt emission standards and limitations and other measures needed to meet the Air Quality Standards;

- Enforce applicable laws, regulations and standards, and seek injunctive relief;

- Take emergency control action when high air pollution episodes occur;

- Prevent construction, modification or operation of stationary sources that will threaten attainment of Air Quality Standards;

- Obtain information necessary to ensure that sources comply with the implementation plan; and,

- Require sources to monitor and record their emissions and report this information to the State control agency, and to make this information publically available.

Section 420.11(d)(1) requires that this authority exist at the time the plan is submitted and 420.11(c) requires the State to submit copies of the laws and regulations that furnish the authority along with the plan. Section 420.22 goes further and requires that all emission limitations, and whatever other measures form the heart of the control strategy of the plan, be adopted as rules and regulations by the time the plan is submitted. These are stiff and important requirements: the State must not only have authority to make the necessary regulations, but it must have made them by January 30.

Two additional kinds of authority – for inspection and testing of auto emissions and transportation controls, and for land use control measures – do not have to exist when the plan is submitted. If such authority is needed for the plan, however, timetables for getting it must be submitted with the original plan. Auto emission inspection and land use and transportation control should be important elements of many implementation plans, particularly in urban areas. Delaying the requirement for authority for these measures recognizes the fact that many States do not have and cannot get the authority on time, but it also de-emphasizes the urgent need for these measures. Make sure that the timetables for getting the necessary authority are as short as possible.

Section 420.11(e) allows the State to place responsibility for carrying out portions of the plan on agencies other than the air pollution control agency, as long as the plan proves that the necessary authority exists or states a timetable for getting it. This is a critical provision.



There is likely to be considerable resistance to including measures other than stationary source emission limitations – such as land use and transportation control measures – in a control strategy. State agencies may argue that they haven't the authority, expertise or manpower to carry out such measures. It is critical that the resources of other State governmental agencies – planning commissions, highway departments, public utility boards, etc. – be used where necessary to help implement and enforce a control strategy. This provision of the Guidelines makes it clear that this can and should occur, and requires the legal basis of other agencies' cooperation to be settled in advance.

Similar considerations apply to section 420.11(f), which allows the State to let a local agency carry out all or part of an implementation plan, as long as (1) *all* the necessary authority exists, and (2) the State is not relieved of its responsibility for carrying out the entire plan. This second provision is also extremely important. Without it, States would be tempted to dump part of their heavy enforcement load on local authorities and wash their hands of all responsibility. With the provision, the State can still be sued for any failure to step in if the local authorities do not enforce the plan.

The notice provisions in the Guidelines do not explicitly require the legal authority of the proposed implementation plan be made available to the public in advance. If it is not, write letters like the one on page 73 to your Governor and Attorney General, and to the head of your State agency in order to get them on record as to the legal authority they have.

With or without the State's opinion, get someone with legal training to make his own written assessment. Send copies to the Governor, the Attorney General and the State agency. If existing authority is inadequate, make sure your assessment suggests language that would correct the inadequacy, and urge its adoption. Publicize the inadequacy. Your State may try to ignore it in hopes of evading its responsibilities after January. Don't let the State miss any opportunity this fall to patch up its legislation.

If you can't get any assessment from the State before the hearings, check with the Project on Clean Air staff. We have replies from about half the States to a letter like the one on page 73. Since all of them assure us State authority is adequate, they could be useful in States which now claim they do not have adequate authority. If your assessment shows inadequacies, send it to the regional EPA director and to Administrator Ruckelshaus, asking them to reply to you and to contact your State. Be prepared to make your arguments at the hearings and to follow them up afterward if they are not heeded. Remember, in pressing for additional necessary legislation or regulations, push at the same time for additional authority you want that is not required by the Guidelines.

What do you do if there is a gap in your State's legislation, and the State admits it, but the State legislature will not meet until after the January 30 deadline? This can be sticky. The Act and Guidelines are unequivocal: the necessary authority *must* exist when the plan is submitted; there is no provision for extension of the deadline for Primary Standard plans, and EPA is required to step in if the plan is inadequate. Yet if a State is well-intentioned, there should not be any need for EPA to intervene because of something the State cannot control. Of course, if the State is *not* well-intentioned and uses the failure of its legislature to meet in order to delay, it may be desirable for EPA to intervene.

Otherwise, some EPA-State bargaining will probably occur, in which EPA makes the State promise to have the necessary authority by a certain time, and promises not to intervene until then. This can happen unchallenged because the Act says that EPA must promulgate its own plan for a State within six months after it rejects the State's proposal, unless the State comes up with something adequate before the six months are up. Since EPA has four months after January 30 to approve or reject a plan, the State may have anywhere from six to ten months to get the legislative authority it needs to submit an acceptable plan.

If your State is in this kind of fix and has a good plan otherwise, try at the hearings to get it to commit itself to a specific timetable for getting the needed authority. This will give EPA a welcome opportunity to wink at the Act and Guidelines. But remember two things. First, EPA can accept parts of a plan and reject others. Make sure the parts of the plan for which authority already exists go into effect on time. Second, do not let a State that has little or no intention of submitting or enforcing a plan anyway use this mechanism to buy time.

Pages 62-7 give examples of emission control and enforcement regulations that might go into an implementation plan. These examples are based heavily on EPA recommendations. Entries in the bibliography list sources of existing State laws and discussions of them. Copies of the Council of State Governments "Model Air Pollution Control Act," and an EPA document stating which parts of the Model Act meet the requirements of the Guidelines, and upgrading the parts of the Act that do not, are available from the Project offices.

## C. CONTROL STRATEGY

The heart of the State plan for controlling pollution is the control strategy – an assessment of the pollution problem in each region and a set of regulations for correcting it. This is also the most theoretically complex and esoteric part of the State plan, which can involve the use of computer modeling techniques to evaluate the alternative methods for reaching the National Air Quality Standards.

The basic elements of a control strategy are spelled out in the Guidelines. Briefly, the control strategy must include:

–A *survey* of the existing ambient air quality in each region;

–A point-by-point *inventory* of the sources of pollutant emissions in each region;

–A detailed description of the *measures* which will be used to reduce emissions from each source;

–A set of *timetables* for implementing these measures for each source; and

–A *demonstration* that, using these measures and timetables, the State can attain and maintain the National Air Quality Standards within set time limits.

The *air quality survey* is needed to determine how badly each region is polluted and how much it must clean up in order to meet the National Air Quality Standards and maintain clean air as the region grows. Since many regions cannot obtain adequate data in a short time, the Guidelines provide means for estimating air quality where data are missing.

A detailed *emissions inventory*, describing the sources of emissions in the region, must be prepared for most regions to identify the sources which the State's strategy must control. To aid States in preparing detailed inventories, EPA has retained ten consulting firms expert in air pollution matters. Their names and the States in which they are working are listed on page 68.

Using information on air quality, and the emissions inventory, the State must formulate a set of *control measures* which will be used to obtain the necessary emission reductions to meet and *maintain* the National Standards, and *timetables* for each source for meeting these goals. Timetables must be set for the State as a whole for meeting the Primary and Secondary Standards, and timetables for individual polluters – "schedules of compliance" – for meeting State emission limitations and other requirements.

Finally, the control strategy must include a demonstration that it will produce the desired results – ambient air quality protecting public health by 1975, and public welfare within a reasonable time (i.e., air quality meeting the National Standards).

Plainly, large parts of these elements of a control strategy will be highly technical and difficult for you to evaluate. However, take comfort. The executives and attorneys for the companies who seek to weaken the State's strategy, in all likelihood, will find the technical details of the State plan as difficult to fathom as you will, and will therefore probably attack the portions of the plan they (and you) can understand. Furthermore, most of the most important decisions to be made are not technical decisions at all, but rather choices of what tactics to pursue, who will pay the costs, and how the strategy will be enforced. You are as qualified as State policymakers to decide these issues, and you should be careful not to let yourself be convinced otherwise. Of course, you will often need technical information – both legal and scientific – to help you evaluate alternatives. But you should see the technical information for what it is – a tool to help evaluate policies, not to manipulate them.

### 1. *Alternative Means of Controlling Air Pollution*

There are a number of approaches to controlling pollution, and the Clean Air Amendments direct the States to use any, or if necessary all, of them to attain the National Air Quality Standards. The Guidelines rely heavily on emission limitations, giving detailed guidance about what is available and how to implement and enforce them. This is natural: emissions limitations involve the most detailed engineering questions and they are the familiar currency of professional air pollution control people.

You should remember, however, that other methods of control may be more effective, and have far more worthwhile long-term effects on the environment. Pollution from private automobiles can only be controlled by substituting more efficient systems, such as mass transit for our basic means of transportation, or by arranging our land-use so that large-scale commuting is unnecessary. In the long run, pollution from power plants and industrial facilities must be curbed by limiting the spiraling demand for electric power and our uncontrolled consumer economy. Pollution is not merely a nuisance, albeit a dangerous one, which we can control by gadgets; instead it is an integral part of the way we live. Only by basic changes in our style of living can we reduce its effects. You should, therefore, not allow your energies to be drained by extended struggles over whether, for example, a bag house or an electrostatic precipitator will be more effective at controlling stack gases. You should conceive the purposes of the Clean Air Amendments more broadly, as the invitation Congress meant them to be to ask for major restructuring of living patterns in your State in order to produce a saner, less polluted, way of life – and you should press your State agency to implement this vision as it was intended, by adopting an implementation plan which will accomplish this objective.

The following discusses some of the alternatives you and your State can consider. Those which go beyond emissions controls are not legally required except in air quality regions where emissions limitations will be insufficient to reach the National Standards. But a State is free to adopt any methods it wishes, and you should support the more ecologically sound ones even where they are not required by federal law. The State hearings, you should remember, are more than merely administrative proceedings to adopt a code of regulations. They are a forum in which to educate the people of your State to the real cause of what Congress called the "crisis" in public health from polluted air, and to seek the basic changes which are necessary to reverse its growth.

The term "control strategy" has been used advisedly by EPA to suggest that a State plan will be an integrated set of sub-plans for dealing with specific aspects of the pollution problem. For each type of pollution, there are several possible means of control, and the State's strategy may well represent a blending of different methods. Your job will be to make sure that this blending does not result in a weak plan masquerading as a strong one.

The six major pollutants with which the State's plan must deal are sulfur oxides, particulate matter, hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides. This Manual will not explain in detail their origins and effects (for more information, we recommend the excellent handbook published by the National Tuberculosis and Respiratory Disease Association; other works on the pollutants are listed in the bibliography to this Manual, which appears on pages 71-2).

For the purposes of a State implementation plan, the important point to remember is that the major pollutants are produced by (1) the burning of fuel in large sources such as power plants and industry; (2) automobiles; (3) industrial processes; and, (4) open burning of refuse or farmers' fields. It is commonly estimated that the pollutants from automobiles represent from 40 to 60 percent of the total weight of pollutants on the average, though the products of fuel burning and industrial processes may have greater effects on human health. The balance between these two basic types of pollution varies considerably from community to community, depending upon the amount and types of industry, the use of the automobile for transportation, and the use of steam generating plants to produce power.

*Fuel Burning.* To control pollution from burning fuel your State will have several options: devices to remove the pollutants from the stack gases at the facility; means of removing pollutants from the fuel before it is burned; alternative methods of operating which require less burning, including other methods of generating power; and, since power plants are one of the main sources of sulfur oxide and particulate matter, generating less power with fossil-fueled generators.

Emission controls, such as electrostatic precipitators and bag-houses for trapping particulate matter, and wet or dry scrubbers for sulfur oxides, will probably be favored by industry and perhaps by your State agency. Industry will probably favor them because, unlike fuel controls, they do not involve indefinite long-term costs – once the initial capital outlay has been made, the costs are minimal. State agencies may favor them because they are familiar, and will cause little or no conflict of authority with other State agencies.

With respect to sulfur oxides, the most effective technology is the use of low sulfur fuel – low sulfur oil, natural gas, or gasified coal. Industry may object to this method because it is simple, effective, and requires spending money indefinitely which cannot be recouped by depreciation of equipment against taxes.

Unfortunately, low sulfur fuel is in short supply now. Little low sulfur fuel oil is now being imported from North Africa, one of the few places it occurs naturally. Fuel desulfurizing plants are being built for American and South American oils, but these are not now producing large quantities of high quality fuel. Low sulfur coal occurs naturally in the American West, but it is only now beginning to be mined. Sulfur and particulate matter can be virtually eliminated from high sulfur eastern coal by gasification, which produces what amounts to natural gas, but the first large-scale gasification plans are only

beginning to be built. Natural gas, the least polluting natural fuel, is in increasingly short supply.

Despite these facts, you should, we feel, press your State agency for phased fuel content controls, which require gradually decreasing pollutant content over a period of several years. They are reliable, certain, and easy to enforce. Most important, new means of producing low polluting fuel will not be developed without demand from industry, and the demand will only be created by tight State fuel content regulations.

Incidentally, do not be mislead by the timorousness of EPA's Guidelines on this point. Section 110(a)(2)(B) of the Act clearly requires, where necessary, that States use "such other measures as may be necessary to insure attainment and maintenance of . . . primary or secondary standard[s]," and the Senate Report makes it clear that Congress had fuel sulfur content controls in mind when it used this phrase:

> "Fuel policies must be developed to provide for the use of clean fuels in urban areas .... Greater use of natural gas for electric power generation may be required. And, to the extent that low sulfur coal and oil are available, they may be required for generating stations and home heating units in critical areas. Fuel import policies may need to be reevaluated."[9]

Never forget, however, that neither stack gas emission controls nor fuel controls will solve the pollution problem. All burning, no matter what the fuel, produces nitrogen oxides and hydrocarbons, and these are pollutants also. Present methods of producing and transporting oil endanger the earth's waters; strip mining of coal defaces the earth; deep mining endangers the health of miners. Even nuclear energy, sometimes proposed as a "pollution-free" alternative to fossil fuels, involves very substantial environmental dangers from the indefinite storage of highly radioactive wastes, and from the heat cast into the water by all power plants. Thus you should, wherever possible, seek alternatives which will reduce the need to burn fuel and produce power.

Many facilities – industrial, commercial, educational – could operate with the use of less power if they examined carefully their operating procedures, and many industries could redesign their processes so as to produce less particulate matter or sulfur oxide. NRDC cannot pretend to be expert on the possibilities here, and each industry or facility must be examined individually. You should take an inventory of the major sources of these pollutants in your community, and if at all possible, obtain the services of engineers expert in the processes of the industries in your area.

Though ultimately the implication of such a policy is clearly that there should be a reduction in the material "standard of living," there are many ways to reduce unnecessary use of fuel and waste of energy short of this major change in American life. Some of them are beyond the power of a State agency to direct: for example, a State agency cannot now decree that all power plants should be fitted with magnetohydrodynamics, a method of reducing the waste of energy in power plants, because at the moment this technology is not yet proven. On the other hand, a State can make rules about the use of energy. For example, it can require that all office buildings be built with windows which will open, in order to reduce the demand for energy to air-condition buildings; and it can require the installation of devices in air-conditioned office buildings which would prevent them from being maintained at inordinately low temperatures. It can also make rules which will slow the present meteoric rise in demand for electric energy, such as forbidding utilities to advertise to encourage the use of electricity, or reversing electric companies' rate structures so that larger users pay higher prices per unit of electric energy than smaller users.

State agencies may resist suggestions such as these, because they involve major changes in their thinking and possible conflicts with other State agencies. But such strategies are clearly authorized by the Act, and in areas where control of emissions will not suffice to reach the National Air Quality Standards, they are required. By law, the federal Administrator may not approve a State plan, or grant an extension of time, to a region which has not explored alternatives such as these for controlling pollution. EPA's Guidelines (section 420.11(e)) recognize this aspect of the Act, and provide that the fact that a State agency other than the one charged with air pollution control may have to participate in administering the State's plan is no excuse for failing to explore any means of controlling pollution.

*Automobile Emissions.* The responsibility for controlling the emission of pollutants from new automobiles has been placed by Congress in the hands of the federal EPA. However, two aspects of this problem have been left with the States: control of emissions from used cars, and control of auto pollution through the use of traffic controls.[10] The possibilities for control of pollution from used cars are covered elsewhere in this Manual (pages 44-5), but a word is in order here about the use of traffic controls.

The Senate Report fleshes out the few words devoted to this method of pollution control given in the Act:

> "The Committee recognizes that during the next several years, the attainment of required ambient air quality in many of the metropolitan regions of this country will be impossible if the control of pollution from moving sources depends solely on emission controls. *The Committee does not intend that these areas be exempt from meeting the standards. Some regions may have to establish new transportation programs and systems combined with traffic control regulations and restrictions* in order to achieve ambient air quality standards for pollution agents associated with moving sources."[11] [Emphasis added]

> "If the Nation is to continue to depend on individual use of motor vehicles, such vehicles must meet high standards. The bill recognizes that a generation – or ten years' production – of motor vehicles will be required to meet the proposed standards. *During that time, as much as seventy-five percent of the traffic may have to be restricted in certain large metropolitan areas* if health standards are to be achieved within the time required by this bill."

> *"Construction of urban highways and freeways may be required to take second place to rapid and mass transit and other public transportation systems."*[12] [Emphasis added]

In simple terms, what this language means is that in many metropolitan regions, where the automobile-related National Standards (i.e. hydrocarbons, carbon monoxide and to some extent nitrogen oxides and photochemical oxidants) cannot be met within the required time through emission controls, the State must adopt other measures, some of which may be quite drastic, to reduce auto pollution. The list of possible measures is legion.

The most controversial, though most effective and ecologically sound, means of reducing automobile pollution are those which discourage the use of the private car. Almost any measure which decreases the inconvenience of using other means of transportation, while increasing that of autos, will tend to produce less automotive traffic. Better (and cheaper) mass transit (by train or bus), special bus lanes on expressways, and special bicycle or bus lanes on city streets will all tend to increase the attractiveness of less polluting forms of travel. The use of automobiles can be discouraged by charging higher tolls on expressways and bridges for cars traveling during rush hours, by parking restrictions, by halting construction of urban expressways, and even by simply returning one-way arterials to two-way operation. More efficient use of autos should also be encouraged by measures such as higher tolls for cars carrying fewer passengers, and institutionalized methods of providing partners for car pools.

Clearly one of the most important measures to consider is the curtailment of highway building in favor of mass transit. Since highways have other important environmental detriments besides pollution, your group may want to press the State hard to include highway building controls, including a ban on the building of urban expressways, in the State plan.

2. *Deciding the State Control Strategy.*

There are four basic steps in formulating the State's control strategy for an air quality region: (1) determining how much the ambient air quality must be improved; (2) deciding what measures must be undertaken to reach the desired air quality; (3) formulating the needed emission limitations and other measures; and, (4) setting compliance schedules for the measures required. You need to understand how these steps will be taken and how polluters, or weak State agencies, might be able to reduce their effectiveness.

[9] *Sen. Rpt.* at 2.

[10] Used cars are covered by Section 209 of the Act; Section 110 provides the authority for the imposition of traffic controls as part of a State implementation plan.

[11] *Sen. Rpt.* at 13.

[12] *Sen. Rpt.* at 2.

*Determining how much improvement is necessary.* The National Air Quality Standards set the target which all States must reach. Primary Standards must be reached by 1975; Secondary Standards must be reached by a "reasonable" time, to be specified in the State plan. Press for requiring the State to reach the Secondary Standards as soon as possible – in some cases the equipment polluters must install, or the other measures they must undertake in order for a region to reach the Primary Standards, will allow it to meet the Secondary Standards as well, and in such cases, a "reasonable" time would be 1975. The Guidelines require States to meet Secondary Standards by this time unless they can show why they cannot.

To determine how much improvement is necessary to reach the Standards, the State must determine how polluted the air presently is. In some regions, measurements already exist, but in most they do not. For this reason, Appendix A of the Guidelines provides a formula for estimating the present concentrations of pollutants, which is based primarily on the physical size of the region and the size of its population. Polluters may well try to attack this method of estimation, claiming that it is unfair to force them to place expensive controls on their plants based on nothing more than an educated guess about the need for such measures. But this procedure is entirely consistent with the Act. Throughout the Senate's deliberations on the Act, Senators expressed their dissatisfaction that the lack of precise knowledge had been used to blunt the attack on air pollution authorized in the 1967 Act. Section 109 of the Act reflects this feeling when it requires the National Air Quality Standards to include "a margin of safety" and to protect against any "known or anticipated adverse effects" of air pollution. The Senate Report says:

> "The Committee is aware that there are many gaps in the available scientific knowledge of the welfare and other environmental effects of air pollution agents. . . . [T]he Committee expects that the [Agency] will intensify research on environmental and other economic effects of air pollution ....In the meantime, the [Administrator] will be expected to establish such national goals on the basis of the best information available to him".[13] [Emphasis added]

In short, you can argue Congress foresaw that precise data on air pollution would often not be available, and did not want this to stand in the way of effective and rapid abatement of present pollution.

*Deciding what measures must be undertaken to reach the desired air quality.* Once the State has decided how much reduction in pollution will be necessary, the next step is to decide how it will be achieved. This involves two questions: (1) what blend of measures – emission controls, fuel sulfur content regulation, traffic control, limitation of highway building, mass transit, bus lanes, etc. – the State will adopt, and what reductions will be required from each individual source, in particular "stationary sources" (primarily industrial facilities and power plants) in order to attain the required reduction.

The variety of choices available for the first decision have been suggested above. In deciding among them, you should keep in mind that these choices are probably the most important ones of the control strategy, which will in the long run heavily determine whether the State can maintain healthful and pleasant air quality. Keep in mind several considerations:

–Some of the measures other than emission control devices, such as control of growth in fossil-fueled power production and automobile traffic, hold much greater promise for long-term abatement. Continued uncontrolled growth of either will soon outstrip our ability to control through emission control devices.

–The more ecologically sound measures will have long-term educational effects, showing people that long-term control of air pollution will require readjusting our present way of living, rather than merely a few technological changes for industrial sources.

–Traffic control is probably a much less regressive measure to control used automobile pollution than requiring back-fitting of emission control devices. The cost of back-fitting will surely fall heavily on the least affluent, who tend to own used cars, while in all likelihood the inconvenience of limiting auto access to central cities will tend to fall most heavily on the more affluent.

–Some of the more drastic measures may have much greater social benefits than the less drastic ones. Reducing the time spent commuting, for example, through control of land use, would reduce the harmful wear and tear on commuters, and better land use and mass transit would reduce the destruction of city and suburban neighborhoods now accompanying the building of many superhighways.

–Emission controls are likely to be more easily obtainable from State agencies than other measures. State agencies are used to administering controls on individual sources, and will probably shy away from measures which might involve them in controversies with the usually potent highway and power agencies of the State.

*Formulating the needed emission limitations.* Deciding what emissions limitations will be necessary for stationary sources will be difficult, and will provoke tremendous pressures from industry for concessions. You need to know the basic principles which can be used for making these decisions in order to understand the assumptions underlying the techniques used to fill in the details of the decision.

Think of the air in your region as a limited resource. The Congressional decision to clean the air amounts to a decision to take some of this resource out of commercial use. The question then becomes to find an equitable principle for deciding who shall have to give up his free use of part of this resource, with consequent increased costs. Remember industry has no "right" to use the air for free. Polluters often talk as if to make them clean up will somehow infringe on their rights, but this is most emphatically not true. If your thinking always starts from this position, you will find it much easier to deal with polluters' arguments.

There are basically two ways for allocating the "air resources" of a region.[14] This oversimplifies, and you will often find them both in proposed control strategies, but you should be clear about the basic principles in order to understand State proposals.

A theoretically simple method is merely to require each polluter to reduce his emissions by the fraction required for the region as a whole, regardless of cost. Thus in a region requiring a 40 percent reduction in pollution to meet National Standards, each source would have to reduce by 40 percent. A second method, favored by the Guidelines, would take the costs of control into account. Once the agency decided how much reduction was required, the State would allocate it so as to produce the least overall cost for attaining the Standards. For example, suppose the total reduction required for an area was 40 percent, and firm A could reduce 40 percent for 10 cents per pound of pollutant, while firm B would have to pay 25 cents per pound for the same percentage reduction. If these two firms each produced half the pollution in the area, the lowest overall cost might be attained by having firm A curtail its emissions more than 40 percent, while firm B curtailed by less than 40 percent.[15]

The Guidelines tend to favor this least-cost approach by encouraging consideration of "cost-effectiveness" and "social and economic impact." The Act, while it plainly outlaws considering economic factors in setting the National Air Quality Standards, does not specifically prohibit States from considering the costs of various means of *reaching* the Standards.

There are some good arguments for rejecting

[13] *Sen. Rpt.* at 11.

[14] Another principle, which is used by most aggressive State agencies, might be called "best technology." It is not, except in highly polluted areas where all available control techniques must be used to reach the national Standards, theoretically compatible with the ambient air quality approach to pollution control – though it is likely to be more effective. Under this principle, the agency simply requires each polluter to use the best available means of controlling his pollution.

This principle has obvious advantages in ease of administration and enforcement, and it was essentially adopted by Congress in the federal new source performance standards. But in relatively unpolluted areas it will, if even-handedly enforced, result in control beyond the national Standards. (Thus it is akin to the "non-degradation" principle discussed below.) Since this would produce better quality air, and leave room for future industrial growth within the national Standards, it is obviously to be preferred. It is not, however, required by the Clean Air Amendments except where necessary to "attain and maintain" the national standards.

[15] A variation on this theme might be to require polluters to share equal costs. Once the overall reduction needed was determined, the State would use cost data to decide how much reduction would have to be made by each source to meet the Standards, while each bore equal financial burdens. This approach has very much the same advantages and drawbacks as the least cost approach discussed in the text.

the least cost approach, however. Emission limitations are imposed partly to force companies to "internalize" the costs of pollution, passing them on to the customer so that prices will reflect the true costs, including the environmental ones, of producing products. When all prices reflect true costs, consumers will be able to decide rationally how much environment they are willing to sacrifice for given products.

The least-cost approach prevents these rational choices, because high pollution control costs of some firms are shared by firms whose pollution control costs are lower. To the extent that the object of State emissions limitations is to facilitate rational choices among products according to their true cost, then, the equal reduction approach is preferable.

It may be preferable for legal reasons, too. The federal Equal Protection Clause requires that each State deal even-handedly with its citizens. Though it is not likely that a constitutional challenge to either approach would be successful, the equal reductions approach, since it apportions to each polluter the costs of cleaning up his own emissions, may be less open to attack.

Remember, no matter what method is chosen, emission limitations and other measures must be sufficiently strict to assure that the Standards, once attained, can be maintained indefinitely. If further industrial growth in an area would threaten maintenance of the Standards, it must be prohibited. The Senate Report is very explicit on this point:

> "In air quality control regions where present air quality is below the standard, rigorous restrictions must be placed on existing sources to provide a margin for future growth, or only pollution-free growth, development and expansion will be possible".[16]

The variations in pollutant concentrations and meteorological conditions within AQCR's will introduce additional variables into the choice of approaches. The Guidelines encourage States to take both these factors into account in setting emission limitations. Where concentrations are below or above the average of the AQCR, or more quickly or slowly dispersed, emission limitations can be correspondingly less or more stringent.

The Guidelines' suggestion to consider variations in the concentrations of pollutants throughout regions (section 420.2(g)) may in some instances run afoul of the Act's mandate, also. If emission standards are more stringent in the suburbs than in cities, polluting industries will be encouraged to move. In some cases, such moves would encourage greater suburbanization, reducing the feasibility of mass transit and increasing pollution caused by the use of private cars for commuting. Varying limitations within a region might also be counter-productive. Where industries move in order to take advantage of less stringent emissions controls, the controls might only have to be tightened later in order to account for the influx of new sources. Thus the "social and economic impact" of varying limitations might be much more detrimental than simply imposing uniform emission limitations throughout a region.

Finally, varying emission limitations within an area may often contravene the Congress' policy of non-degradation. The Senate Committee's statement of this policy, quoted below, says that in *areas* where present air quality is above-Standard, further degradation shall not be allowed to occur. It does not limit this statement to *regions* with above-Standard air, and thus it must be presumed that the policy has the same force for areas within regions which have high quality air.

*Non-Degradation.* The battle over the question of "non-degradation" has been one of the hottest one in air pollution legislation and administration. It has been fought out in Congress, where the principle appears to have been largely accepted; and again in the EPA, where the principle appears to have been rejected. You will have a chance to fight the battle anew at the State level.

Basically, the principle of non-degradation is simple, but it has extensive ramifications for the theory of controlling air pollution. Non-degradation means, simply, that in areas of the country where the air is presently purer than the National Primary and Secondary Standards, no further deterioration (or as little as humanly possible) should be allowed. A great deal of energy has been expended between those who support this position and those who support the more "practical" rational economic theory of the use of "air resources."

The conflict can be briefly described. Those who favor the "air resources" view take the position that air, like any other natural resource, exists to be used. To the extent that the air can can be used as a free dump for the effluent of civilization, it reduces the costs of production and therefore brings happiness to people at a lower cost. Of course, we and other creatures must breathe the air, so there is a limit to how much effluent it can absorb without imposing other costs on us. These limits, at least for the moment, are the National Air Quality Standards. The prescription of those who subscribe to this view, then, is that we should by all means reduce our pollution in the places where it exceeds the National Standards; on the other hand, we should not waste the "air resources" (unpolluted air) we have elsewhere by allowing them to remain purer than the National Standards. In short, we should allow polluting industries to move to presently unpolluted areas, placing controls on them only to the extent necessary to assure that the National Standards are not breached anywhere in the country. This is the sort of reasoning which supports projects such as the Four Corners power plants in the Southwest.

Those who favor "non-degradation," on the other hand, place clean air in a category not unlike that of wilderness: clean air, like wilderness, has value beyond its economic worth, and should therefore not be considered merely an economic asset.[17] Rather than allowing our present supply of "air resources" to be used, they would preserve it as untouched as possible, regardless of the fact that this would impose some additional costs on industry (and ultimately consumers), who would be forced to install the best available technology wherever they chose to locate. In regulations, this philosophy could be expressed two ways: (1) that no further degradation be allowed in presently above-Standard areas; or (as a compromise), that further industrialization of such areas be allowed only if the industries install the best possible pollution control technology (and upgrade this as better technology is developed).

The battle between these two positions was joined in Senate hearings on the 1970 Act, and carried through to the legislation itself. Several Senators expressed their sympathy with the non-degradation view repeatedly during the hearings on the Senate bill,[18] and witnesses, including those from the Department of Health, Education, and Welfare (which at that time – prior to the creation of EPA – would have had jurisdiction over the Act) supported it.[19] The testimony of Secretary Finch contained a clear statement that under the Administration bill, as well as the Muskie bill, the Secretary of HEW (now the Administrator of EPA) would not have been able to approve any State plan which did not provide for maintaining high air quality.[20] Similarly, the Senate's Report on its bill says, in discussing the Section on State implementation plans, that no State implementation plan should be approved by the Secretary

> "which does not provide, to the maximum extent practicable, for the continued maintenance of such ambient air quality. Once such national goals are established, deterioration of air quality should not be permitted except under circumstances where there is no available alternative. Given the various alternative means of preventing and controlling air pollution – including the use of the best available control technology, industrial processes, and operating practices – and care in the selection of sites for new sources, land use planning and traffic controls – deterioration need not occur".[21]

In our opinion, this statement provides all the authority EPA would need to impose non-degradation of presently above-Standard areas as

[16] *Sen. Rpt.* at 13.

[17] We exaggerage the "wildemess" aspect of their position to simplify the contrast with the "air resources" view. To some considerable extent, one can favor non-degradation out of distrust that the pollutant levels required by the National Standards actually protect public health and welfare with adequate margins for our incomplete knowledge. As mentioned above (page 6) new research has invariably shown adverse effects at lower concentrations, and EPA's National Standards allow very small margins beyond levels at which effects have already been demonstrated. Hence, non-degradation is also the prudent position, even for an advocate of the "air resources" philosophy.

[18] *Sen. Hearings at* 159, 1490.

[19] *Sen. Hearings* at 132, 143-59.

[20] Statement of Secretary Finch, *Sen. Hearings* at 143.

[21] *Sen. Rpt.* at 4.

a requirement of all State implementation plans, despite the lack of explicit mention in the statute itself.[22]

EPA has pursued a zig-zag course with respect to non-degradation. In its National Air Quality Standards, the agency included a statement to the effect that nothing in the Standards should be construed to allow the debasement of the air in areas where it was presently above-Standard. However, when the Agency proposed its Guidelines for State plans, no such statement was included. NRDC and other environmental groups protested this omission, and EPA included a statement in its June 28 draft (see pages 14-17 for a discussion of the history of the Guidelines) virtually identical to the one included in the National Air Quality Standards. This statement was hopelessly muddled in the final Guidelines, which contain the statement that they shall not be construed to

> "encourage a State to adopt . . . a plan which does not provide for the protection and enhancement of air quality so as to promote the public health and welfare and productive capacity." (section 420.2(a))

This language bears the unmistakable imprint of committee writing – the tug-of-war between EPA and OMB described above. The section contains no reference to the preservation of air quality in areas with above-Standard air. The phrase "productive capacity," ambiguous as to whether it refers to the productive capacity of people or the economy, has been added in an obvious attempt to muddy the waters still further. This ambiguity can be clarified by examining the "Purposes" section of the Act, (Section 101(b)(1)), from whence it was unhappily borrowed:

> "The purposes of this title are – (1) to protect and enhance the quality of the nation's air resources so as to promote the public health and welfare and the *productive capacity of its population* ...." [Our emphasis]

What does all this mean for your State implementation plan? We have suggested that you press your State officials to include non-degradation sections in their implementation plan. State officials are likely to answer your request with the argument that nothing in the Guidelines requires the plan to include non-degradation. As you can see from the above, this statement is a lot more debatable than it might appear at first. As the Guidelines make clear, a State plan may be approved by EPA only if the Administrator "determines that it meets the requirements of the *Act*," (section 420.8), not just the requirements of the Guidelines. Since Congress intended that the quality of the air should not be allowed to deteriorate in any air quality region, any State which fails to adopt non-degradation as a policy in its implementation plan runs the great risk of having its plan rejected, either by the Administrator of EPA, or by a court which reviews his decision. You should be able to argue this point strongly to your State air pollution authorities, and you should make it clear that you will oppose, in court if necessary, any plan which fails to adopt it. Once again, it is important that you confer with State officials during the period while they are considering what will be included in the State plan. A court fight, even if you win it, could be extremely costly and might delay the State plan for some time. Moreover, State officials are far more likely to listen to your arguments while they still have not gone on record as opposing non-degradation.

*Compliance Schedules* – Large industries cannot install control devices, arrange to buy low-sulfur fuel, or change their processes or energy requirements instantaneously, nor can automobiles be fitted with control devices or inspected, nor traffic patterns or transportation systems altered, overnight. Thus control strategies must, under section 420.15 of the Guidelines, provide "compliance schedules" for "all stationary and mobile sources or categor[ies] of such sources."

These schedules should be the nuts and bolts of pollution control, and for this reason they are another critical point for attack by polluters. Judging by section 420.15, State schedules can take two forms – generalized schedules which require all sources of a given "category" of source (e.g. all used automobiles) to reach a given emission level or install a given device by a given time, or specific schedules applying to individual industrial facilities. Obviously any State plan will have to have some schedules of each type – no State will make individual schedules for each used car. But generally, the more specific your State's compliance schedules are about who must do what by when, the better they will be. Any installation which produces large quantities of pollution should have an individual compliance schedule. Compliance schedules should specify interim dates[23] by which easily observable changes must be made (e.g., an electrostatic precipitator installed on a given boiler, or a bus lane set up on a freeway or arterial), rather than simply specifying reductions in emission levels. Specificity and easy measurement are important because they simplify enforcement. It is much simpler to prove in court the failure to install specified equipment than to prove excessive emissions.

EPA's final Guidelines on compliance schedules contain one highly questionable major concession to industry, which you should be prepared to deal with. Section 420.15(a)(2), added in the Office of Management and Budget "review," can be used by a State to prolong the period for submitting compliance schedules to EPA until mid-February of 1973. If States take advantage of this provision, it will impede enforcement[24] and, as a practical matter, peril the State's ability to meet the National Air Quality Standards in the required time.

You must monitor the State's negotiation of compliance schedules carefully to prevent this. In particular,

> – Push the State to begin setting compliance schedules right away, pointing out that slowness in negotiating them is not an acceptable reason for requesting an extension of time for State compliance with federal Primary Standards, and could result in federal enforcement.
>
> – Make sure the State agency has a rational plan for negotiating compliance schedules. To be sure of attaining National Standards quickly, larger polluters should be controlled first. Point out, if necessary, that the Guidelines require reaching the Standards "as soon as possible" – which means in less than three years if it can be done.
>
> – Increase the public visibility of the negotiations over compliance schedules. Your worst enemy is often the quiet discussion between officials and company executives. Ask for public hearings, with a written record, on each major compliance schedule. Failing that, ask that a representative chosen by environmental groups be allowed to participate in any negotiations.

Despite your actions, the process of negotiating compliance schedules will continue beyond the deadline for submission of implementation plans in many States. You should be prepared to follow up, to make sure the State submits this part of its control strategy as completely and quickly as possible.

Some States are bound to use the lengthened period for submitting compliance schedules as an excuse for inaction. This will be difficult to counter, owing to the Guidelines' solicitude for the practical problems of negotiating schedules.

If the State appears likely to prolong setting compliance schedules, you should ask that it set a timetable of its own, as part of its implementation plan, specifying which compliance schedules remain to be determined and when they are expected to be completed. You could then check progress, and publicize if the State falls behind.

You probably will have little other recourse should your State plan prolong the development of compliance schedules. If you State fails to act at all after receiving federal approval of its stretched-out control strategy, you could address a formal letter to Administrator Ruckelshaus detailing the State's inaction, and asking him to issue an order under Section 113 of the Act compelling the State to get on with setting compliance schedules. If such an order were issued, you would be able to sue to compel action under the citizen suit provision yourself.

However, you are much more likely to obtain redress if you wait until the State fails to submit complete compliance schedules within

[22] The Act itself adopts a close relative of the non-degradation principle in its federal new source performance standards, which require the application of the best available technology to *any* new or modified source, regardless of the ambient air quality in the region in which it is located. Since the new source standards will gradually come to control all sources, Congress can be said to have adopted what amounts to a gradual non-degradation policy in the Act.

[23] Section 420.15(c) of the Guidelines requires interim targets for any compliance schedule which extends to more than 18 months.

[24] For example, if no compliance schedule has been worked out with an industrial plant, it may still be possible to bring suit for violating applicable general emissions limitations. But this will often be more difficult than enforcement actions based on compliance schedules, because a court may be unsympathetic if it knows that a State compliance schedule has not yet been negotiated.

the Guidelines' deadline. Should this occur, you can request the Federal Administrator to disapprove the plan. If EPA approves the plan despite your protests, you can, of course, obtain review of his decision under Section 307(b)(1) (and perhaps under Section 304) in federal court.

Remember that compliance schedules do not apply only to installing industrial equipment. Legally enforceable specific compliance schedules are required for all "stationary and mobile sources or categories of such sources" in the region. Thus your State plan should provide compliance schedules for any fuel sulfur or process changes; alterations in traffic patterns or new tolls on highways; construction or operation of new rail or bus mass transit systems; or measures to reduce the consumption of fuel, power, goods, or the use of the private automobile.

## D. ENFORCEMENT

If you convened a group of polluters' lawyers and gave them their choice of which part of the State plan they would most like to write, it would be the enforcement section. Lawyers know that without good enforcement provisions, nothing else in the State plan matters, and they also know that seemingly minor nuances of phrasing can have devastating effects. To counteract polluters' attorneys, you should have your own attorney. This part of the Manual is no substitute, but it will acquaint you with the federal enforcement requirements and opportunities, and give you a basis for reacting to proposed enforcement provisions.

To respond to the enforcement provisions your State agency proposes you need to know some principles for deciding whether a procedure will work or not, and you need to know what is required by the Act and the federal Guidelines. This part deals with the former; and the next with the latter.

### 1. *What Good Enforcement Provisions Should Include*

The optimum enforcement system is one which has the following basic characteristics:

– It places the costs involved in enforcement, as much as possible, on the polluters rather than the State agency or the citizen enforcer;

– It makes the polluter, not the State agency or the citizen, collect the information which will be needed to establish whether or not he is in compliance with the law;

– It requires that the enforcing agency, or citizen, prove the simplest possible factual case in court;

– It makes the polluter suffer from delayed enforcement proceedings, rather than the agency, the citizen or the public at large;

– It discourages litigation, by encouraging the polluter to use his resources to comply with the law rather than contest it;

– It provides incentives to make citizen enforcement easy and inexpensive.

In air pollution control, one deals for the most part with well-staffed potential violators and with an understaffed enforcement agency. Thus, the basic rule for enforcement mechanisms is to make the polluter bear the costs of enforcement as much as possible. This policy is fair and effective. Enforcement of pollution controls is a cost of engaging in a business which results in pollution, just as pollution abatement is. Enconomists agree that for consumers to make informed choices among products the full costs of pollution control should be included in the operating costs of industries. Since it is the polluter who seeks to use the public air resources, it is also fair to ask that he pay the costs of assuring he does not abuse his privilege.

There are also good practical reasons for having the polluter bear the costs of enforcement. Much of this expense goes to gather information. In many cases the polluter will have to gather the same kind of information in order to abate anyway, and requiring him to make this information available to enforcement authorities will add little to his clean-up costs. Since he knows his plant better than State control officials, he can also gather it at the least overall cost.

Putting the cost of enforcement on the polluter has a further advantage. It will increase the incentive to clean up voluntarily, since it allows State enforcement agencies to undertake more enforcement actions. By increasing the liklihood of enforcement, it deters the obstruction which industries have sometimes used in the past to stave off the day of reckoning.

There are three basic costs of enforcement: the cost of gathering the information to establish violations; the cost of proving the violation in court or before an administrative agency; and the cost of delays while a court or the judicial arm of the agency decides whether a violation has occurred. The costs of gathering information may include the costs of operating surveillance systems and testing, and the legal costs involved



in forcing a stubborn polluter to reveal information he has collected. The costs of proving a violation are the legal fees and salaries that must be paid to attorneys and experts and the litigation costs of filing fees, printing, and so forth. The costs of delay are more subtle. If a polluter need not suspend or curtail his operations during the period while an enforcement action is pending against him, the public continues to bear the costs of breathing polluted air; but if temporary abatement is required as soon as enforcement procedures start, the polluter pays the costs of delay in terms of lost production.

All these costs are interrelated. If complex or unavailable facts must be established in order to prove a violation in court, the costs of gathering information and of proving the case both rise and they may be so high that an agency can undertake little or no enforcement. If the cost of delay rests with the State or the citizens – i.e., if temporary abatement cannot be obtained – the polluter will often use legal procedures to frustrate attempts to obtain facts he already has or could readily produce. If you have been interested in air pollution long, you probably have seen repeated instances of all these.

The best enforcement system is one that must be used least. Enforcement costs are essentially wasted costs. The money spent bringing cases to court and obtaining orders to force polluters to clean up, and the money spent by polluters defending such suits, is not spent to abate pollution. Thus a good enforcement scheme should include a considerable deterrent – polluters should realize that if they fail to abate voluntarily, they can expect to be hied into court soon and forced to spend money to defend the suit, as well as to clean up. Deterrence is related to the cost of enforcement actions – the less the cost per action, the more enforcement proceedings can be brought. It is also related to the number of enforcers available. If more money is provided to hire more attorneys for the enforcement department of the State agency or more State Assistant Attorneys General to prosecute pollution suits, or if citizens have the right to bring enforcement actions on their own, more actions can be undertaken.

An enforcement system which requires polluters to gather information in a form which can readily be used for enforcement will aid citizens' ability to force compliance as well as that of State agencies. Similarly, when the issues to be proved in court are simple, citizens are much more able to mount the resources necessary to bring compliance actions. Further incentives for citizen enforcement which you should, if possible, obtain, are provisions for courts to award lawyer's fees, litigation costs, and a percentage of fines to successful, or meritorious, though unsuccessful, citizen plaintiffs (see pages 66-7).

### 2. *Requirements of the Act and Guidelines*

The Clean Air Amendments and EPA's Guidelines require States to adopt relatively good enforcement systems. The federal law regarding enforcement is contained in numerous provisions of the Guidelines and Act. In order to understand it fully, there is no substitute for reading all the provisions carefully. Here, we can give only a general discussion of where this law meets the requirements of a good enforcement scheme and where you can suggest improvements.[25]

*Collection of information.* – Under Section 110 of the Act, State plans must require source owners to install monitoring equipment, as well as provisions for State monitoring systems. Sections 420.18 and 420.19 carry out this mandate, requiring State plans to include "enforceable procedures" forcing owners to maintain records and make periodic reports, and new sources to submit information on the emissions they will cause.

Also, under Section 114 the federal Administrator can require polluters to make public any information they collect which will help to develop an implementation plan or determine whether a source is violating any requirement of a plan. The Act and Guidelines require information "reported" by source owners or "otherwise obtained" by the State agency to be made public. In addition, should the State or a citizen sue a polluter for violating an emission limitation or schedule of compliance, the background records used to produce the company's reports will normally be obtainable by legal "discovery" procedures.

A State could comply with these sections without forcing much disclosure or record-keeping, however. To make maximum use of this part of the Guidelines, press your State agency to require continuous monitoring of sulfur oxides, nitrogen oxides, and particulate emissions. This is feasible, and was actually recommended in EPA's June 28 draft of Appendix B. (See pages 64-5.) To be sure these data are available to the public, you should also seek to have your

State plan require source-owners to submit continuous monitoring records as part of their reports. The importance of such rules cannot be overestimated. If you can obtain them, you will have made it possible for citizens and the State to bring successful enforcement actions easily and cheaply. You may even reduce the need to bring enforcement actions, since tremendous public pressure can be brought to bear by newspaper reports based on these continuous monitoring data. Requiring submission of such records also increases the difficulty of falsifying reports.

*Factual case.* – The Clean Air Amendments have made long strides towards reducing the burden of enforcement actions brought by the State agency or the citizen. Under the common law doctrine of nuisance (still existing in most States), an enforcement agency or citizen often had to prove that it was technically feasible, or economical, for the polluter to clean up; and some State pollution statutes previously required the enforcer to demonstrate the effect of the emissions from a source on the ambient air quality of a region before the court would require abatement. Either of these rules gave the polluter many avenues of escape, and often placed insurmountable burdens on the enforcement agency. Under the 1970 Act, the enforcer's task is much easier; he need only prove that the polluter is violating an applicable emission limitation (which should include schedules of compliance in order to get a court order (injunction) requiring abatement. Thus you need not, under normal circumstances, worry about what must be proven in court under the new Act. You need only be sure that the State does not try to tack additional provisions onto those provided by the Act which would make proving a violation more difficult. For example, a State cannot, in an acceptable implementation plan, require proof of the economic or technological feasibility of abatement, nor can it ask the enforcer to demonstrate the effect of the polluter's emissions on ambient air quality.

*Who suffers from delay.* – Neither the Act nor the Guidelines contain provisions which would place the cost of delaying enforcement on the polluter. The Guidelines require that the State demonstrate its legal authority to enforce applicable laws and seek injunctions against existing sources, and to "prevent the construction, modification, or operation" of any source where its emissions would threaten the State's ability to attain or maintain any National Standard. Section 420.18 of the Guidelines also requires an implementation plan to include means of disapproving a proposed new or modified source if it will result in either a threat to attaining and maintaining a National Standard or a violation of the applicable portions of a State implementation plan.

But these provisions do not require the kind of enforcement system you need to force the polluter to pay the cost of delaying tactics. You may wish to push your State agency for other measures to accomplish this: a permit system, provision for abatement orders, administrative compliance orders issued by the air pollution agency, preliminary injunctions, scaled fines related to the quantity of illegal pollution, or pollution taxes.

EPA's June 28 draft of its Guidelines would have required a permit system for existing sources, and new or modified sources. OMB's "review" eliminated this requirement, leaving only a requirement (section 420.18) that polluters must demonstrate new or modified sources will not threaten attainment of National Air Quality Standards. But the Guidelines still *allow* permit systems. We recommend that you push for including a permit system of the type suggested on pages 62-4). Permit systems can be designed so that the polluter must reveal a great deal about the type and quantity of his emissions, and agree to place himself on a step-by-step schedule for compliance, before he will be allowed to continue operating. A good permit system will also require that the information revealed in the permit application be made public, so that citizens and newspapers will have a chance to determine who the major polluters in the region are[26] Usually a permit system will give a period of grace during which polluters are allowed to apply for the permits and have them processed. EPA's June 28 draft Guidelines limited this time to six months; our model regulation suggests setting phased schedules for obtaining permits, starting with the largest polluters. This should prevent the agency from being swamped with applications, ensuring scrutiny of each application in a rational order. Once the period for applying has passed, the polluter should be subject to stiff civil penalties for operating without a permit. Enforcement of a permit requirement is simple and cheap, since the State can obtain an injunction or fine merely by showing that the facility does not have a valid permit.

You should also seek provisions for administrative compliance orders, or preliminary injunctions as means of shifting the cost of delay onto the polluter. Compliance orders allow the enforcement arm of the air pollution control agency to close a plant or curtail its operations during the period while the agency or a court determines whether the company is complying with the State's emission limitations. Roughly equivalent orders, when obtained in court, are called preliminary injunctions. In some States, the State pollution control agency can already obtain preliminary injunctions, though often with difficulty. Ordinarily courts may grant preliminary injunctions only when the party asking for

[25] The following outline can help you locate the enforcement provisions with respect to each type of pollution control mandated by the Act, and serve as a reference when you want to deal with specific aspects of enforcement.

1. State enforcement against stationary sources:
   a. *Presently existing sources:* section 420.11(a) (2) of the Guidelines; Sections 110, 115 and 116 of the Act.
   b. *New and Modified Sources:* section 420.11(a) (4) of the Guidelines; Sections 110(a) (2) (D), 111(c) (d), and 114(b) (1) of the Act.
   c. *Monitoring:* sections 420.11(a) (5) (6), 420.18(b) & (c), and 420.19(a) (1) & (3) of the Guidelines; Sections 110(a) (2) (C) (F) and 114(a) & (b) (1) of the Act.
   d. *Public availability of data collected by source owners or State:* sections 420.10(e), 420.7(a) & (b), 420.19(a) (1), and 420.18(b) of the Guidelines; Section 114(a), (b) & (c) of the Act.
2. *State enforcement against used car pollution:* section 420.11(b) of the Guidelines; Sections 110(a) (2) (G), 209(c), and 16 of the Act.
3. *State enforcement of emergency episode provisions:* sections 420.11(a) (3), App L, 1.5.3.(e) of the Guidelines; Sections 110(a) (2) (F) (v), 114(a) & (b) (1), and 303 of the Act.
4. *Federal enforcement against stationary sources:*
   a. *Presently existing sources:* Sections 113, 115 of the Act.
   b. *New and modified sources:* Sections 111(c) (2), 113, 115 of the Act.
   c. *Monitoring:* Section 114 of the Act.
   d. *Public availability of data:* Section 114(c) of the Act.
5. *Federal enforcement against auto pollution:*
   a. *Monitoring:* Sections 206, 207, 208, 211(c) (3) & (d) of the Act.
   b. *Enforcement:* Sections 204, 205, 207(b) (1) & (2) of the Act.
6. *Federal enforcement in emergency episodes:* Section 303 of the Act.
7. *Citizen enforcement of State and federal emissions limitations, schedules for compliance and war provisions:* Sections 304, 307(b) (1) of the Act.

[26] Industry will almost always oppose such a provision on the ground that what they emit is proprietary information, which might help their competition. This claim is usually false, since few industrial processes are secret from others in the same industry. State regulations can handle this sort of claim by requiring any polluter to reveal the information unless he can make a satisfactory showing to the State agency, or better yet a court, that the information should be entitled to protection as a "trade secret". This subjects the polluters claim to scrutiny, and puts the burden of withholding information on him. "Trade secret" is also a narrower and better defined legal category. Since "trade secret" and "proprietary" are terms of art, you would be well advised to have an attorney handle discussions with your State agency about this problem.

them can show he will probably win the ultimate law suit. Few States now grant the air pollution control authority the right to make immediately effective compliance orders though the Act gives such powers to the federal Administrator. Model State provisions for both these kinds of authority are contained on pages 66-7.

Sliding scale fines may also deter polluters who might otherwise prolong non-compliance. Large polluters, whose cleanup costs will be great, must be subject to fines large enough to encourage them to comply rather than pay. Thus the size of fines should be related to the quantity of illegal pollutant emitted, rather than limited by fixed maxima as most State and federal fines now are. If a large polluter knows that his fine will be so many cents per illegal pound of pollutant emitted per day, his incentives to clean up will be similar to that of smaller source-owners. The amount of the fine per pound should be more than the cost of cleaning up the pollutant, to provide an economic incentive to induce compliance. An example of a fine regulation of this sort appear on pages 66-7.

Further economic incentives to prevent foot-dragging can be engineered into the fine structure by providing for increasing the unit cost of fines as time passes. If, for example, a fine of 15 cents per pound of sulfur dioxide emitted above the applicable emission limitations can be assessed during the first year of operation of a State plan, this figure might be increased to 20 cents per pound during the second year, and 25 cents per pound the third and subsequent years. Since the cost of abating sulfur dioxide pollution is often estimated to be about 15 cents per pound, this fine structure would provide strong economic incentives for polluters to comply with the emission limitations.

We should stress here that fines scaled to quantities of pollutants emitted are wholly compatible with the basic idea of carefully worked-out compliance schedules which the Act and the Guidelines require. No fines would be assessed for emissions which did not exceed the provisions of the applicable compliance schedule. Since the compliance schedules would take into account each polluter's problems in installing controls, scaled fines would only penalize polluters who failed to live up to realistic obligations.

Scaled fines are, however, somewhat clumsy. They cannot be effective unless polluters are required to keep continuous emission records, since the enforcer will have to prove to a court how much pollutant the facility has emitted in order to have a court assess the fine. This increases the costs of data gathering and proving a case. To be safe, a sliding fine scale should be accompanied by a set minimum per month of violation to preclude the ludicrous possibility of a court finding a polluter in violation but not assessing a fine because the State cannot prove the exact amount of the illegal emissions. The model State fine provision on pages 66-7 of the Manual shows how such a provision might be written.

Finally, the costs of delay can be shifted extremely effectively by imposing a pollution tax set at a level high enough to induce companies to reduce emissions as quickly as possible. A tax differs from a sliding scale fine in two respects: it applies without a judicial finding that excess emissions have occurred; and it usually taxes all pollution, whether or not above emission limitations. (Taxes could, of course, be written to apply only to emissions in excess of emission limitations, but this is usually not proposed.) Taxes present many of the same problems as scaled fines. First, the level of the tax must be set so that the cost of non-compliance is greater than the costs of cleaning up. Second, someone must inspect the source or keep continuous emission records so the source owner can be assessed the correct amount of tax. (This problem can be simplified somewhat for sulfur oxides, since a more easily administered tax on the sulfur content of fuels, collected at fuel supply sources, can be substituted for an emissions tax.)

*Discouraging litigation.* – Much of what has been said above suggests how to discourage litigation. In general, any provision which increases the chance of enforcement action against an obstinate polluter, or any provision which tends to increase the costs of defending or losing an enforcement suit, increases the incentive to avoid litigation.

The Act and the Guidelines contain several significant deterrents to non-compliance. Sections 113 and 114 of the Act allow the federal EPA to issue abatement orders and even take over enforcement of an entire State plan if the State fails to enforce it, and provide the Administrator of EPA with the tools he needs to carry this authority out. Section 303 allows EPA to enforce State emergency plans. The citizen suit provision, Section 304, may be even more important, since it gives citizens the right to seek injunctions against polluters who fail to comply with State emission limitations, and gives the federal courts the power to award litigation costs and attorneys' fees whether or not they succeed. The value of Section 304 cannot be overestimated, since it means that even polluters with enough political muscle to hamper State enforcement are no longer safe from effective enforcement. NRDC is preparing analyses of this provision for laymen and attorneys.

A strong citizen suit provision, which *requires* the State courts to award litigation costs and attorneys' fees to any citizen who brings a successful suit, would be a valuable addition. So would a provision allowing (or requiring) courts to award a portion of fines to successful citizen plaintiffs. Such provisions can, of course, only be added to a State plan where State law presently grants, or can be changed to grant, citizens the right to sue on State emission limitations. Any such provision should also make it clear that citizens may sue their State government for failure to comply with any requirement of the implementation plan.

*Fines versus criminal penalities* – Citizens favoring the most stringent control of air pollution are often tempted to favor the use of criminal rather than civil penalties against polluters who fail to abide by emission controls. This is understandable, since most concerned citizens consider someone who fails to clean up his plant morally reprehensible. Criminal penalties may not be the most effective means of accomplishing control, however, since judges are often reluctant to brand an offender a criminal for conduct which until quite recently was considered perfectly normal.

We feel that effective enforcement is more likely if criminal and civil penalties are combined in a somewhat different way. Penalties for violating an emission standard or schedule of compliance, we feel, should be strictly civil – that is, strictly fines and injunctions. Rather than seeking to have your State plan include criminal penalties for violations, you would better spend your energies making sure that civil fines for large-scale pollution are commensurate with the amount of pollution and/or the length of time it has occurred.

Criminal penalties should be reserved to enforce the strict reporting and record-keeping requirements which are the backbone of successful enforcement. The State plan should require that the President of a company, or Vice President reporting directly to the President, or the highest corporate executive located in the State, sign the documents submitted to the State and certify by his signature that the information submitted is true. (Do not allow this statement to require the officer to certify that the information is "true to the best of his knowledge," or some like phrase, since this will allow him to escape prosecution by later claiming ignorance that the information was false.) Stiff criminal penalties – fines of perhaps $10,000 and/or jail sentences of six months to two years – should be provided for failing to maintain or report the required records or for false statements contained in the reports and records. The plan should provide that officers are personally liable for falsehoods submitted to the agency, and may not be reimbursed their fines by their company.

Criminal penalties for lying – as opposed to polluting – are common in the law, and judges usually do not hesitate to enforce them. (For example, federal judges regularly impose criminal penalties on offenders who falsify stock statements or violate the reporting requirements of the Securities and Exchange Act.) Better yet, such provisions are usually self-executing. Corporate executives who might take chances with the possibility of having their company pay a fine will seldom risk the disgrace and cost of a criminal penalty applied to them personally. Thus such a provision goes a long way towards assuring that a high corporate executive will personally supervise corporate record-keeping and reporting to be sure that the records and reports are truthful.

State agencies have full authority under the federal Guidelines to promulgate rules such as these. Sections 420.18 and 420.19 of the Guidelines require State plans to provide "legally enforceable" procedures to require polluters to implement the State's authority to disapprove the construction, modification, and operation of new sources which will "prevent the attainment or maintenance of a national standard," and to require source owners to "maintain records of, and periodically report . . . information on the nature and amount, of emissions . . . ." Thus you should not hesitate to press your State to adopt criminal penalties for failing to maintain records or report, or for maintaining or reporting false records.

*Enforcement against automobile pollution.* It is much more difficult to develop workable enforcement provisions for emission controls from automobiles than from stationary sources, because there are so many more polluting units. No satisfactory inexpensive and quick method

has yet been developed for determining whether automobile emissions are within the legal limits, even as part of an existing State-required safety inspection. At present, it is only practical to determine whether the required pollution control equipment is installed and functioning properly, and to determine whether the car emits visible smoke (unburned hydrocarbons) from the tailpipe. (See pages 44-5 for discussion of inspections.) "No standing" and "no idling" rules, which have been imposed in some jurisdictions to reduce hydrocarbon and carbon monoxide emissions, are also difficult and expensive to enforce.

More drastic methods of coping with automobile pollution are much easier to enforce (a point, in addition to their greater long-term effectiveness, in their favor). It is relatively easy to enforce pollution control tolls imposed on major access highways into an urban area. For example, it is simple for a toll collector to assess tolls related to the number of passengers per vehicle, or related to whether the vehicle passes through the toll gates during rush hour. (If the major access routes to a city are not toll roads, of course, this method of control will have little utility. But most cities of any size are now serviced by some sort of limited access highway used by commuters to come to work.) In the Guidelines, EPA has promised future guidelines for traffic control measures along with estimates of their effectiveness.

Similarly, no enforcement problems are presented by methods of control such as special bus lanes on highways, construction of new mass transit facilities, or bans on the construction of new urban expressways.

## E. AIR QUALITY SURVEILLANCE

### 1. *Air Quality Surveillance*

An air quality surveillance network consists of a series of sampling devices located throughout an air quality control region, and the laboratory, communications and other resources needed to collect and analyze sampling data and maintain the sampling devices. Surveillance networks are necessary to judge progress made toward compliance with ambient Standards, to provide data to develop and modify control measures, and to activate emergency control procedures during air pollution episodes.

Section 110(a)(2)(C) of the Act requires that an implementation plan include "provision for establishment and operation of appropriate devices, methods, systems, and procedures necessary to monitor, compile, and analyze data on ambient air quality...."

Section 420.17 of the Guidelines sets specific requirements for surveillance networks. These include highly detailed specifications of numbers of monitoring sites, types of sampling methods and frequency of sampling, a requirement that at least one sampling site be located in the "area of estimated maximum pollutant concentrations," and a requirement that the plan describe the existing and planned surveillance system in detail. The plan must demonstrate that those elements of the surveillance system needed for emergency episodes will be operating one year after the plan is approved. The rest of the system must be functioning one year later.

EPA has recently published an excellent, short pamphlet on surveillance networks that can be ordered free by non-profit organizations.[27] This pamphlet and the specifications in the Guidelines say a great deal about what an acceptable surveillance network should include. We have a few additional comments.

Make sure that your proposed implementation plan contains a detailed description of the surveillance network. If this description is thorough enough, you will be able to tell a lot about the proposed network – even without technical help – simply by comparing the description with the specifications in the Guidelines.

Make sure also that the plan includes definite schedules for complying with the one- and two-year deadlines for operating networks.

The specifications in the Guidelines for minimum required numbers of sampling sites are set according to population: the more people, the more sites required. This fails to take land area into account. Where many people live in a relatively small area, fewer samplers may be necessary than when the same number of people live in a larger land area. The Act requires that all persons' health be protected. Make sure that the network in your region provides samplers to test the air in every part of the region, including low-population areas.

The most contentious aspect of the surveillance network will probably be the location of the sampling devices. The Guidelines require only that one sampling site must be located in the maximum-pollution area, but the EPA pamphlet gives more thorough advice. Make sure the samplers in your area are located so as to give as representative samples as possible of a community's air.

### 2. *Emission Source Monitoring*

One of the key elements in the implementation plan is the procedure for monitoring compliance with the requirements of the control strategy. Close attention will be necessary to be sure that these procedures provide the State agency and citizens easy access to the detailed emission data they need to bring quick, effective enforcement actions.

Section 110(a)(2)(F) of the Act requires that State implementation plans have legal authority and provisions for:

> – stationary sources to install equipment to monitor their emissions;
>
> – periodic reports on monitored emissions; and
>
> – correlation of reported data with applicable emission limitations and public availability of the correlated data.

The Guidelines echo the Act's requirements for State implementation plans:

> – 420.10(e): requirement that reported emission data be publically available, correlated with emission standards;
>
> – 420.11(a)(5) and (6): legal authority to inspect, require monitoring and reporting of emission data, and to make such data public;
>
> – 420.19: requirements for legally enforceable procedures for monitoring and reporting of emission data by source owners, inspection of stationary sources by the State agency, and establishment of a system for monitoring visible emissions and investigating complaints.

In addition, Section 114 of the Act gives the federal Administrator broad authority to:

> – require monitoring and reporting of emissions by sources and submission of whatever other information is requested, and
>
> – enter stationary sources and copy records, inspect monitoring equipment and sample emissions.

Except for information about trade secrets, all reports, data or information the Administrator acquires must be made public. *No* emission data submitted to the federal authorities can be kept from the public, however, and any confidential information can be shared by EPA with other enforcement authorities. Section 420.11(d)(2) of the Guidelines allows the Administrator to delegate his authority under this section to States in order to fulfill their requirements for authority to monitor source compliance.

These are good general requirements, but the rules for States require less than the thorough monitoring procedures that are absolutely essential for effective enforcement of a control strategy. Citizens should press for several items that will help make the monitoring system as airtight as possible. The example regulations on pages 64-5 contain language implementing most of these improvements.

Section 114 provides federal control officials with broader authority than the Guidelines require of State officials. It allows EPA to collect information other than emission data, to inspect any source, and to make all emission data public. Make sure that your State either has similar authority or requests EPA to delegate its authority under Section 114.

Make sure that the plan provides legally enforceable monitoring and reporting requirements for *all* stationary sources. Section 420.19 of the Guidelines states that the stationary sources to which its requirements apply are

> "sources of a class or category which, for the purposes of construction or modification, would be subject to procedures established pursuant to §420.18."

Section 420.18 deals with review of construction of new sources (defined as construction of new stationary sources and modification of ex-

[27] "Guidelines; Air Quality Surveillance Networks," U.S. Environmental Protection Agency, Office of Air Programs Publication No. AP-98. See page 72 for ordering instructions.

isting ones). The new source section of the Act (Section 111) defines stationary sources as "any building, structure, facility, or installation which emits or may emit any air pollutant," and says that standards must eventually be set for all stationary sources that "contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare." If new source standards will eventually be set for all such stationary sources, procedures (under section 420.18) for review of their construction will also be set, and therefore the monitoring and reporting requirements of section 420.19 apply to *all* stationary sources that contribute to air pollution.

Make sure that the regulations in the control plan *require* sources to install monitoring devices, make reports and so on. Don't leave it to the agency's discretion.

Press for continuous monitoring and recordkeeping wherever technically possible. There is no requirement for this in the Act or final Guidelines, but you should argue that it is the only truly effective way to monitor compliance and that it will be a more effective deterrent to noncompliance. The example regulations on pages 64-5 calling for continuous monitoring and recordkeeping for sulfur dioxide, particulate matter, and nitrogen oxides are based directly on recommendations in the Guidelines EPA was ready to publish in June.

The minimum amount of monitoring data pollutors must submit to the State control agency should be set in the regulations. EPA has previously recommended submission of monthly summaries of 24-hour averages of continuous data. This would not be sufficient to tip the agency off to any cheating. A 24-hour average alone could conceal emissions well above standard. Press for more frequent submission of hourly averages of continuous data. Submission of any data is worthless in terms of enforcement unless readings are taken frequently enough to expose non-compliance and make cheating difficult.

Make sure that continuous or other monitoring data must be kept in a form allowing easy inspection, and must be kept on file by the source owner for a specified period of years.

Make sure also that all monitoring data and reports are expressed in the same terms in which the applicable control regulations are expressed. If an emission standard is expressed in terms of weight of emissions per unit of process input (say, 0.20 pounds of particulate matter per 100 pounds of refuse burned in an incinerator), make sure the monitoring data is kept in the same units, not, for example, in terms of weight of emissions per hour.

Most important, make absolutely certain that the implementation plan provides for quick and easy public access to *all* information that any control agency collects. Without such measures, much of the value of the Act's citizen suit provision disappears.

The Guidelines call for including procedures for investigating complaints. Suggest procedures requiring the control agency, upon receipt of a standard form making a complaint or specifying grounds for suspecting non-compliance, to make an inspection, obtain and make public all monitoring data for the period in question, and issue a statement of action on the complaint within a specified time. You might also press for a measure requiring the control agency to obtain and make public hourly averaged monitoring data from a specific source for small periods of time if it receives a formal request from an interested party.

The Guidelines also call for inspection procedures, including a system for monitoring visible emissions. Make sure these procedures appear in the implementation plan and make the best possible use of the control agency's resources.

## F. EMERGENCY EPISODE PROCEDURES

Section 303 of the Act gives the Administrator of EPA authority to go to court to restrain any polluter contributing to a severe air pollution problem that endangers human health—that is, to take federal action in an air pollution emergency. Section 110(a)(2)(F)(v) requires that an implementation plan contain comparable authority for the State agency and contingency plans to implement that authority.

Section 420.16 of the Guidelines elaborates on these requirements:

1.) Each air quality control region classified as Priority I or II must submit an emission control plan for emergency episodes which:

- sets criteria (air pollution levels) that define two or more stages (degrees of severity) of an air polluting emergency,
- provides for public announcement when these stages are reached, and
- specifies emission control measures to be taken at each stage of a crisis.

Appendix L of the Guidelines gives EPA's recommendations for criteria for four emergency stages, and emission control actions to be taken at each stage.

2.) For each stationary source emitting 100 tons or more per year, the emergency action plan must contain a "specific legally enforceable emission control action program." If this cannot be submitted as part of the original implementation plan, it must be included in the first semi-annual report made by the State (see section 420.7 of the Guidelines).

3.) An emergency action plan for a Priority I area must also provide for:

- daily acquisition of forecasts of stagnant weather conditions, updated every 12 hours during emergency episodes,
- inspection of sources during an emergency to see that they are complying with the measures of the emergency action plan, and
- communications with public officials, emissions sources, other public agencies and the news media.

4.) If requirements 2 and 3 cannot be met by the time the implementation plan is submitted, the plan must contain a timetable for meeting them one year after submission, and interim emergency measures.

These provisions indicate what you can demand under the Act and Guidelines, but they give only the bare bones of an adequate emergency action plan. When air pollution conditions occur, serious enough to immediately endanger human health, the control agency must put into effect what amounts to an entire implementation plan that will produce the desired abatement in hours or days instead of years. To do this, a plan must be highly detailed and completely prepared in advance, yet flexible in operation. Successful implementation requires coordinated effort from a variety of public agencies and officials and private persons.

The essential elements of an adequate emergency action plan are:

- Sufficient legal authority to create and enforce the plan;
- Basic information about meteorological conditions and ambient air quality, and detailed information about the operation of each emission source in the area;
- An ambient surveillance system based on the regular network, but capable of giving quicker and more frequent readings;
- A system for obtaining more frequent and thorough meteorological information;
- A communications network for dealing with monitoring and weather data, other public agencies, the public and emission sources; and
- The abatement strategy itself, including:
  - air quality levels defining each emergency stage;
  - specific abatement measures for each emergency stage, chosen to respond to the severity of the stage and to prevent the occurrence of the next most severe;
  - inspection procedures adequate to determine quickly whether abatement measures are being carried out; and
  - enforcement procedures allowing the control agency to force quick compliance and including heavy sanctions for non-compliance.

Since writing the main control strategy is already taxing most State agencies, many may choose to delay submitting an emergency action plan until a year from January 30, 1972, and others may submit abatement procedures for specific sources in the first semi-annual report (due for most States by December 31, 1972). Whether or not your State plans a delay, we recommend that you order copies of two EPA publications dealing with emergency action plans as soon as possible.[28] Both are free and give excellent, detailed treatments of the subject. We have only a few additional remarks.

If your State does decide to delay a full year in submitting its emergency plan, make sure that is specifies the best possible interim measures. Also make certain that the public will be able to examine the proposed emergency plan

[28] "Guide for Air Pollution Episode Avoidance," and "Guide for Control of Air Pollution Episodes in Medium-Sized Urban Areas," Office of Air Programs, Environmental Protection Agency, June, 1971. Non-profit organizations can order these publications free, as documents AP-76 and AP-77 respectively, from the address given on page 72.

sometime before it is finally submitted. Do the same for any abatement procedures for specific sources that are submitted in the first semi-annual report.

Appendix L of the Guidelines offers some example regulations of the sort that might be written into an implementation plan to require preparation of "standby plans" for specific sources. These regulations can be improved substantially. All stationary sources (not just those emitting 100 tons or more) should be required to submit an abatement plan as part of an application for a permit to operate. If no permit system is planned, make preparation of abatement plans by source-owners mandatory and allow the State agency to disapprove them and write its own plan for a source if necessary.

## G. PROCEDURES FOR REVIEW OF NEW CONSTRUCTION

In Sections 110(a)(2)(D) and 110(a)(4), the Act requires that implementation plans include procedures for agency review of construction of new sources and modification of existing ones. These procedures must require the owner or operator of the source to submit whatever information the agency needs, and must include authority to prevent the construction or modification of any stationary source to which a new source standard will apply if that source would jeopardize attainment of a National Air Quality Standard. "New source standards" are emission standards to be set by EPA periodically over the coming years for categories of sources. (See Section 111 of the Act and page 7.) The Act requires review only of new construction or modification of existing sources that fall into categories for which these Section 111 standards have been set.

Sections 420.11(a)(4) and 420.18 of the Guidelines expand these requirements in several important ways:

– Section 420.18(a) expands the scope of the Act to require that the control agency disapprove any construction or modification that jeopardizes a national standard *or violates any provision of the implementation plan.*

– Section 420.11(a)(4) requires that the State have authority to prevent construction, modification *or operation* of sources jeopardizing attainment of National Air Quality Standards. The same section requires that the States have such authority over *any stationary source*, not just those sources to which Section 111 standards apply.

Section 420.11(a)(4) originally called specifically for authority for a permit system, but that language was dropped in the final version of the Guidelines. Nevertheless, these sections come close to requiring a fairly comprehensive permit system anyway: information on construction of new sources and modification of existing ones, and on operation of all sources must be submitted to the agency, and some kind of agency approval given.

Press for inclusion in the plan of a comprehensive permit system applying to construction and operation of all sources. The main advantage of such a system is that it forces every polluter to demonstrate to the control agency that it has met all requirements and that it will not violate any standard or other regulation. The expense of this demonstration falls largely on the polluter, not the agency, and the demonstration is made uniformly for every polluter, not just where the agency suspects malfeasance. A permit system that covers existing sources also provides uniform and detailed information on the existing pattern of emissions, information the agency would have to gather anyway.

There is good evidence the EPA favors permit systems. In proposed and revised versions of the Guidelines, Appendix B contained example permit regulations. A March, 1971, EPA document recommended a permit system even broader than the one suggested on pages 62-4. The introduction to the final Guidelines gives no reasons why the specific permit system requirement was dropped.

The example control regulation on pages 62-7 includes a comprehensive permit system based heavily on EPA's recommendations. In addition to covering existing as well as new sources, this system

– covers installation of any air pollution control devices;

– calls for use of the best available control technology;

– adds provisions for revisions of the terms of the permit;

– requires that each source have an approved emergency episode plan before the permit is granted.

If you cannot get a permit system incorporating all these features, make sure that the procedures written into the plan meet the minimum requirements of the Guidelines:



– they apply to *operation* as well as construction or modification,

– they apply to *all* stationary sources, and

– they prohibit issuing a permit to a source which will violate *any* measure of the implementation plan.

You might want to go beyond the example regulation and press for measures requiring a detailed, publicly available administrative statement of reasons on all permit decisions.

A really thorough permit system should cover construction of transportation or other facilities that carry or accommodate mobile sources. The most obvious examples are roads, tunnels, garages and other facilities for motor vehicles, or airports and railbeds and railyards.

In conjunction with a permit system, citizens might want to urge adoption of procedures on the State and/or local level like those provided for on the federal level by the National Environmental Policy Act of 1969. NEPA calls, among other things, for each federal agency to establish procedures by which it will file with the Council on Environmental Quality detailed public statements on the environmental impact of any major action. NEPA (reprinted on pages 75-7) could easily be adapted for State use, and would give environmentalists access to a wide range of projects (such as fossil fuel-fired steam generators) that do not involve any major federal agency action.

In pressing for a full-scale permit system, keep in mind the danger of its degenerating into a licensing system for polluters. Presented with large numbers of permit applications to process in a short time, a control agency may be forced to simply distribute permits without adequate examination. This will be particularly true if the agency is underfunded or understaffed to begin with. The agency should establish a schedule for processing permit applications that will allow it to give adequate consideration to each one. Make sure that the permit regulations contain a provision stating that possession of a permit in no way relieves a source from the obligation to comply with all applicable control regulations. If permits are handed out indiscriminately, this provision will prevent polluters from arguing that they cannot be prosecuted for non-compliance simply because they have a permit.

## H. PROCEDURES FOR REVISIONS

1. *General Revision Procedures.*

An acceptable plan must contain procedures for its own revision. Changes in the ambient Standards for the six pollutants and development of new ways to control their emission are inevitable over the next few years. Careful attention should be paid to the procedures for revising plans in response to these changes to guarantee full public participation in revision.

Section 110(a)(2)(H) of the Act states that the Administrator must approve a plan if, among other things,

> "it provides for revision, after public hearings, of such plan (i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of achieving such primary or secondary standard; or (ii) whenever the Administrator finds on the basis of information available to him that the plan is substantially inadequate to achieve the national ambient air quality primary or secondary standard which it implements."

Section 110(a)(3) requires the Administrator to

> "approve any revision of an implementation plan applicable to an air quality control region if he determines that it meets the requirements of paragraph (2) and has been adopted by the State after reasonable notice and public hearings."

(The "requirements of paragraph (2)" are the general requirements – for emission limitations, timetables, emergency procedures, etc. – that any proposed plan must meet to be approved in January.) This means that any revision of a plan must be treated in exactly the same way as a proposed plan was originally – hearings must be held, and the revision must be approved by EPA if it meets the strict requirements of the Act.

What if a State fails to revise its plan? The Act calls for the same action as when a State fails to submit any plan at all, or submits an unacceptable plan. Under Section 110(c), the Administrator must put his own plan or revision of a plan into effect six months later unless the State does what he wants before that.

What constitutes failure to revise a plan? Under sections 420.6(a) and (b) EPA can notify a State that it must revise its plan when a National Air Quality Standard is revised, when better methods of attaining the Standard are developed,

or when the Administrator finds that the existing plan is inadequate. The State must then, within 60 days or some longer period set by the Administrator, revise the plan according to the plan's own revision procedures. If the State fails to do all this, the Administrator must step in. Section 420.6 of the Guidelines elaborates further on the revision requirements of the Act:

> "(c) Revisions of rules and regulations included in an applicable plan shall be adopted after reasonable notice and public hearings... ;
>
> (d) Any revision of rules and regulations and of compliance schedules shall be submitted to the Administrator... within 60 days following its adoption;
>
> (e) Revisions other than those covered by paragraph (b) of this section shall be identified and described in the semi-annual report...."

These paragraphs are in clear violation of the Act. They require only that revisions of rules and regulations be submitted to public hearings by the State. Changes in compliance schedules are not required to go through hearings, and changes in other elements of the plan don't even have to be submitted within the required period for revisions (and, the implication is, will not have to be approved by the Administrator after "reasonable notice and public hearings").

Make sure that the revisions procedures contained in your State's implementation plan follow the requirements of the Act and provide for adequate public notice and hearings on *all* revisions of the plan. Good revision procedures are particularly important because an entire class of variances are required by the Guidelines to be considered revisions of implementation plans. For a discussion of this important point and detailed suggestions for what revisions procedures should include, see pages 55-9.

2. *An Additional Application of the Revision Procedures.*

The revisions procedures of an implementation plan should be extended to apply to two additional elements of a State's air pollution control activities. Sections 111 and 114 of the Act give the Administrator of EPA responsibility to set and enforce emission standards for newly constructed sources of pollution (Section 111) and broad authority to monitor compliance with these standards and with the provisions of State implementation plans (Section 114). Each of these Sections contain a paragraph saying that any State may submit a plan for performing the duties described in the Section, and that the Administrator may approve the plan and delegate his authority under the Section to the State.

EPA will be likely to delegate its authority under these provisions, since federal enforcement is difficult and the agency is already overburdened. Once delegated, moreover, each of these important blocks of authority is likely to stay in State hands. Though each Section contains a statement that delegation of his authority in no way prevents the Administrator from performing the duties described, once the authority is delegated it is less likely that EPA will step in except in emergencies or cases of blatant State failures to fulfill their responsibility.

If authority under these sections does fall to the State, it is important to ensure that the State must follow adequate procedures to carry out the authority. With one possible exception, the Act and Guidelines provide for no public access to the plans States submit under Sections 111 and 114. It should be possible, however, to consider these plans revisions of the existing implementation plan and deal with them as such.

Section 114 is the one case where citizens may have a hand in a State request for delegation of federal authority. A State may submit, along with its original implementation plan, a request that the Administrator delegate to the State his monitoring authority under Section 114 of the Act.

If a State makes such a request, its implementation plan should spell out how it plans to carry out its monitoring authority. Along with the rest of the plan, this request would be subject to public scrutiny at the hearings.

It is possible, however, that a State might submit a separate monitoring plan after the original implementation plan had been approved. Since the original plan would have contained some kind of monitoring procedures, the new monitoring scheme would revise rules and regulations in the original plan, and therefore would have to be considered at public hearings before submission to the Administrator. Make sure that the revision procedures written into the original implementation plan state specifically that submission of a request for delegation of authority under Section 114 constitutes a revision of the plan that must be given public hearing under section 420.6 of the Guidelines.

Do the same thing for Section 111. States are already required, as part of their control strategy against the six major pollutant types, to set emission limitations on specific sources



in order to meet the National Air Quality Standards. Section 111 requires the federal government to go beyond these limitations and set uniform national emission limitations for whole categories of sources. These limitations will often be tougher than the specific emission limitations set under a State implementation plan, and they will apply to other kinds of pollutants than the six for which National Air Quality Standards have been set. If a State applies to take on responsibility for enforcing these standards, however, there is no provision for the public to examine the procedures it will follow.

Again, argue that any State plan for enforcing new source standards would constitute a revision of the rules and regulations of the original implementation plan and must be treated as such by being subjected to public hearings. The original implementation plan will have to contain emissions limitations covering all the types of sources for which new source standards will eventually be set. Any enforcement plan for tougher new source standards, then, will have to supersede – therefore revise – the enforcement measures of the original plan.

It might be argued that new source standards will apply to some types of pollutants that can not be controlled under an implementation plan because implementation plans can only deal with the six major pollutant types. An enforcement plan for new source standards for these other kinds of pollutants, then, couldn't possibly revise an implementation plan and therefore wouldn't require hearings.

This argument is correct, but not very damaging. First, it applies only to a small group of pollutants. For example, new source standards for the first five categories of sources to be listed by EPA cover only one kind of pollutant not covered by implementation plans – sufuric acid mist emitted from sulfuric acid plants. Second, Section 111(d) of the Act requires the Administrator to establish procedures, similar to those for regular implementation plans, requiring States to submit implementation plans for existing sources of pollutants that are covered under the new source standards but are not covered by the regular plan. Presumably, the Administrator's procedures for these extra implementation plans would require hearings like those for the regular plans, including hearings on revisions. Any State request to enforce federal standards for new sources of these pollutants would constitute a revision of one of these extra plans.

According to Section 112, "...the term 'hazardous air pollutant' means an air pollutant to which no ambient air quality standard is applicable...." It cannot be argued, then, that a State plan for enforcing these standards should be subject to public hearings because it constitutes a revision of the original implementation plan. Still, the general argument can be made (as it can with the other two Sections) that the procedures for enforcing hazardous pollutant standards are of as much legitimate concern to the public as those of the regular implementation plan and therefore ought to receive the same public attention. Though it may not affect the shape of the original implementation plan, this argument should be made at the hearings to reinforce the parallel between the admitted need for hearings on implementation plans and the need for hearings on hazardous pollutant procedures.

## I. PROVISIONS FOR INTER-GOVERNMENTAL COOPERATION

Section 110(a)(2)(E) of the Act requires an implementation plan to contain:

> "adequate provisions for intergovernmental cooperation, including measures necessary to insure that emissions of air pollutants from sources located in any air quality control region will not interfere with the attainment or maintenance of such primary or secondary standard in any portion of such region outside of such State or in any other air quality control region."

Section 420.20(d) of the Guidelines repeats this requirement, and section 420.21 sets specific requirements:

> –An agency writing an implementation plan for one part of an interstate region must share information with agencies writing plans for other parts of the region.
>
> –An implementation plan must state which State and local agencies will be responsible for carrying out the plan and what their responsibilities will be.
>
> –State agencies enforcing plans must share information with State agencies enforcing plans in other parts of interstate regions or in adjoining regions.

These requirements are addressed to a thorny set of problems. A State is responsible only for the part of an interstate air quality control region within its boundaries. Different States' parts of the same interstate region share the same general air pollution problem, and their control efforts are

bound to affect one another. Similar problems often occur between adjoining regions. Sources near boundaries may be controlled sufficiently for the purposes of their own area, but may still pollute another area. Different and conflicting control strategies and compliance schedules may be followed in adjoining areas. One area may get an extension while an adjoining one does not. Neighboring regions may be given different priorities, and therefore have to meet different requirements, even though a low priority area may contribute to a high priority area's problem.

The general provisions in the Act and Guidelines require implementation plans to include all measures necessary to deal with these problems, but the specific requirements in the Guidelines are incomplete. Without detailed knowledge, moreover, it will be difficult for EPA to reject any plan for failure to deal with these problems. It is important that you pay close attention to your plan's provisions for inter-governmental cooperation.

Urge State and local authorities responsible for writing and implementing the plan for your area to cooperate closely with authorities from adjoining areas. The Guidelines require only information sharing, on request. Press for continuing, close cooperation at every stage in writing the plans. Look at proposed plans for adjoining areas and coorinate efforts with clean air groups in those areas.

If your plan covers part of an interstate air quality control region, all its key elements should provide for cooperating with control authorities in the rest of the region.

–Control measures and compliance schedules should be as uniform as possible.

–Any description of existing ambient pollution conditions should include estimates of the effects of pollutant sources in your area of the region on ambient pollutant levels in other areas.

–Emission inventories should include information on sources outside your area that contribute to its pollution problem.

–Control strategies and compliance schedules should be as uniform as possible, and should take account of problems in the entire air quality control region.

–Plans should include detailed and practical procedures for sharing monitoring and other information among control authorities throughout the region.

–Emergency episode procedures should be highly coordinated. It may even be best to establish a single nerve center for the entire region, under which the various control authorities must work.

–Any permit system or other procedure for examining construction of new sources should be uniform within the region.

Considerations similar to these apply to implementation plans for adjoining AQCR's. Uniform control strategies and emergency procedures are probably not as practical or important in this case, but they should take inter-regional problems into account.

In both cases, requests for exemptions or extensions should be required to include detailed statements demonstrating that the extension or exemption will not interfere with attainment or maintenance of a Standard in any adjoining region or part of a region.

## J. USED AUTOMOBILES

One of the major weaknesses of the Clean Air Act of 1970 is its failure to deal adequately with the subject of used cars. The new Act prescribes stringent standards for vehicles manufactured after the enactment of the legislation, but ignores those vehicles already on the road. At present, there are over 100 million "used vehicles" on the highways which do much of the serious polluting of the air. These vehicles will live well beyond 1975, when the strict federal standards for new motor vehicles take effect. The result will be that in 1975 when eight to nine million new vehicles sold that year will have to meet rigid national emission standards, approximately one hundred and forty million used vehicles on the road will have to meet either no minimal national standard at all or the much less stringent standards of previous years.

Section 221 of the Senate amendments to the 1970 Act that dealt with this problem failed to survive the House-Senate Conference Committee and was deleted. This Section would have established federal standards of performance for air pollution control devices or systems installed on pre-1968 vehicles. Congress also rejected two plans that would have imposed a retroactive installation obligation upon the auto manufacturers, and would have established a federally-subsidized program for installation of pollution control devices on used vehicles. Since all of these measures failed to



appear in the final version of the Act, the States will be the governing bodies that must deal with the problems of used vehicles.

One potential means of controlling auto emissions available to the States is auto inspection systems. These are test systems that diagnose the amount of pollutants a car is emitting. The implementation plan set forth in Section 110 of the Act specifically requires that each region develop inspection and testing programs for motor vehicles. Under Section 210, the EPA Administrator is authorized to make grants to the State totalling two-thirds of the costs of "developing and maintaining effective vehicle emission devices and systems, inspection and emissions testing and control programs." But under a similar provision of the 1967 Act, not one State applied for the two-thirds grant for developing an inspection program, and only New Jersey, under other provisions of the 1967 Act, applied for and received a demonstration grant to support the development of emission testing procedures suitable for inspection programs. Clearly, the States must move quickly to implement inspection and enforcement programs to control air pollution from used vehicles. The problem is that some States do not yet have an agency formed to qualify for a federal grant, and some of those which have agencies lack the expertise either to test control devices or to establish emission standards for used vehicles. Some States will have difficulty in affording even one third of the cost of implementing an enforcement program. Such States should be granted additional federal expertise and financial assistance, as needed.

New Jersey is about to institute a motor vehicles inspection system called a "retro-fit system". This is a diagnostic system that will test cars for carbon monoxide and hydrocarbon emissions at "idle mode only", i.e., while the car is stationary and the engine is in neutral. This inspection system has received much publicity and it is an admirable attempt to measure auto emissions. It has, however, several important faults. Automobiles, under this system, will be tested only when they are not moving. This does not nearly approximate the actual reality of driving conditions, especially in congested urban areas where drivers often stop and start their engines as much as they actually drive them. In recent test, scientists have concluded that a substantial amount of the emissions from engines occurs at the cold start. This system does nothing to measure the pollutants emitted when a car is started. Further, the New Jersey system requires specially trained mechanics who know how to operate the measuring devices used in the test and how to correct the malfunctions of the car. If citizens are to receive adequate testing and correction services, a massive education of servicing mechanics would be in order.

Unfortunately, aviable, accurate auto inspection system does not now exist. Citizens should press their States to investigate all possible systems, and to conduct their own experimentation programs. In the meantime, States should be urged to consider imaginative and innovative alternatives to inspection systems. Until such systems are available, citizens should press States to consider imposing measures to control automobile traffic in congested urban areas. In some cities, States may have to bar nonessential traffic if the National Air Quality Standards are going to be met.

## K. RESOURCES

A State's implementation plan must contain a section describing the resources (funds, manpower, and equipment) that it will need to carry out the plan, as well as a summary of what resources already exist, and how and from where they will be supplemented. Without an adequately funded and well-staffed agency, a State cannot hope to conduct and enforce a powerful implementation plan. The following describes the money that Congress had made available to the States and how it can be used; and the roles and functions different State control agencies will have to perform, in order to implement their plan. Citizens can play an important role by serving as watchdogs to ensure that their State has secured for itself sufficient funds and adequately trained personnel to undertake a strong control program.

### 1. *Funding*

Providing financial and technical assistance to State, local and regional air pollution control agencies is a major responsibility of the federal government under the amended Clean Air Act. This assistance is intended to supplement the resources available to such agencies from State and local governments and the assistance they can obtain from non-governmental sources.

1. Grants to Establish and Maintain Air Pollution Control Programs:

–Grants to State, local and regional agencies to assist them in developing, establishing, improving and maintaining programs for the prevention and control of air pollution, in-

cluding implementation of air quality standards. *Two* federal dollars can be made available for every *one* dollar of State and local expenditures for agencies serving a *single* State or municipality. For inter-jurisdictional agencies, awards can be made on a three-to-one basis.

–To be eligible for project support, air pollution control agencies must plan, develop, or have an acceptable "workable program". Projects for the purpose of planning or developing a workable program are generally expected to be completed in two years or less.

–Control program maintenance is intended to provide control agencies with continuing federal financial assistance for the maintenance of effective operating workable programs. Maintenance grant support is awarded for a maximum of one year at a time; however, once support has begun, the grantee agency can plan on continuing support as long as satisfactory progress has been made.

–Eligibility for program maintenance support will be established by adequate documentation that the applicant agency is, in fact, executing an effective workable program.

2. Planning Grants to Control Agencies:

–Where an air quality control region includes parts of *two* or more States, it is essential that those States coordinate their Standard-setting and development of implementation plans. To facilitate such coordination, the federal government can pay, for two years, up to *100%* of the air quality planning program costs, and thereafter up to three-fourths of the cost of such activities can be authorized. This support can be provided to only a single agency in each interstate air quality control region.

–The principal purpose of this grant is the development of implementation plans for consideration and possible adoption of the State(s) involved. In addition, such support can be provided for long-range planning relating to the prevention and control of air pollution in such areas as transportation, fuel-use policies, land-use patterns, power generation, and solid waste disposal. Because there is a close relationship between the quality of air and areas of activity such as those mentioned above, States should call on existing broad-based planning agencies for assistance in the development of air quality standards and implementation plans in interstate air quality control regions. In many places, regional councils exist which have a capability for providing such assistance.

One good indicator of the ability of a State control agency to function properly is its per capita expenditures. In general, pollution is population-oriented – the larger the population concentration, the greater the pollution problem, and therefore the higher the costs of control must be per person. The following table gives an outline of HEW's estimates of the minimum expenditures required for various control program models. The figures are only guidelines, as specific factors in each community or region would determine actual expenditures.

Of the fifty-five State and territorial programs being financed by the grants program in 1970, only six have reached an annual per capita expenditure of 25¢, which has generally been considered the minimum expenditure needed for State programs. Only 23 (including the six) are spending as much as 10¢ per person per year.

Local and regional programs are at the present time doing better with 44% of the agencies spending what has been considered adequate for a minimal program. Sixty-four of the 144 grantee agencies are spending at least 40¢ per person per year, which has been estimated to be the minimum needed for local programs. The new provisions of the 1970 Act will clearly necessitate higher expenditures at all levels. How much is still unclear. Citizens must, however, press for expenditures that support a real effort by their State to abate pollution. Clearly, if a State is spending a per capita amount of eight-thousandths of a dollar a year (as in the case of Alabama), vast increases in expenditures must be made. The following table lists State-by-State per capita expenditures, along with the State and local air pollution control budgets and sources of funding. These figures will show you how much each State has actually been spending, and may also indicate how much more the residents of your State should be spending.

## TABLE 1

| Population | Model Programs | Required Number of Staff Positions | Staff Position Per 100,000 Population | Total Annual Budget $ | Annual Per Capita Cost $ |
|---|---|---|---|---|---|
| 20,000 | complaint | 0.5[a] | 2.5 | 5,000 | 0.25 |
| 50,000 | complaint | 1.25 | 2.5 | 12,500 | 0.25 |
| 50,000 | nominal | 1.5 | 3.0 | 15,000 | 0.30 |
| 250,000 | nominal | 7.5 | 3.0 | 75,000 | 0.30 |
| 250,000 | intensive | 10 | 4.0 | 100,000 | 0.40 |
| 500,000 | intensive | 20 | 4.0 | 200,000 | 0.40 |
| 1,000,000 | intensive | 40 | 4.0 | 400,000 | 0.40 |

a– Fractional staff positions represent persons in existing departments who would devote only part of their time to the air pollution program.

(From "Manpower and Training Needs for Air Pollution Control", *Report* of the Sec. of HEW to the Congress. Sen. Doc. No. 91-98 (August, 1970) U.S. Gov. Printing Office.)



## TABLE 2. CONTROL PROGRAMS BUDGET–FISCAL YEAR 1970

| STATES | Population (in millions) | Dollars/ capita | Total Budget | Total Federal Funds | Total Non-Fed. Funds | Total State Program | State Program Federal Funds | State Program State Funds | Total Local Program | Local and Regional Programs Federal Funds | Local and Regional Programs Local Funds |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 3.373 | .008 | 27,142 | 14,642 | 12,500 | – | – | – | 27,142 | 14,642 | 12,500 |
| Alaska | .294 | .30 | 89,192 | 65,915 | 23,277 | – | – | – | 89,192 | 65,915 | 23,277 |
| Arizona | 1.752 | .47 | 819,437 | 313,978 | 505,459 | 376,719 | 181,978 | 194,741 | 442,718 | 132,000 | 310,718 |
| Arkansas | 1.886 | .057 | 108,600 | 59,600 | 49,000 | 108,600 | 59,600 | 49,000 | – | – | – |
| California | 19.696 | .634 | 12,646,206 | 2,470,821 | 175,385 | 4,348,582 | 800,000 | 3,548,582 | 8,297,624 | 1,670,821 | 6,626,803 |
| Colorado | 2.195 | .447 | 980,623 | 521,939 | 458,684 | 323,485 | 144,990 | 178,495 | 657,138 | 376,949 | 280,189 |
| Connecticut | 2.987 | .331 | 994,288 | 490,083 | 504,205 | 438,473 | 199,758 | 238,715 | 555,815 | 290,325 | 265,490 |
| Delaware | .542 | .730 | 369,308 | 197,308 | 172,000 | 369,308 | 197,308 | 172,000 | – | – | – |
| Dist. of Columbia | .746 | .471 | 351,202 | 234,134 | 117,068 | 351,202 | 234,134 | 117,068 | – | – | – |
| Florida | 6.671 | .251 | 1,673,659 | 963,427 | 710,232 | 857,392 | 500,000 | 357,392 | 816,267 | 463,427 | 352,840 |
| Georgia | 4.492 | .135 | 602,986 | 317,084 | 285,902 | 401,818 | 181,484 | 220,334 | 201,168 | 135,600 | 65,568 |
| Hawaii | .748 | .00 | – | – | – | – | – | – | – | – | – |
| Idaho | .698 | .121 | 84,698 | 47,180 | 37,518 | 84,698 | 47,180 | 37,518 | – | – | – |
| Illinois | 10.973 | .371 | 4,061,370 | 1,105,050 | 2,956,320 | – | – | – | 4,061,370 | 1,105,050 | 2,956,320 |
| Indiana | 5.143 | .154 | 791,637 | 335,571 | 456,066 | 194,858 | 74,378 | 120,480 | 596,779 | 261,193 | 335,586 |

| STATES | Population (in millions) | Dollars capita | Total Budget | Total Federal Funds | Total Non-Fed. Funds | Total State Program | State Program. Federal Funds | State Program. State Funds | Total Local Program | Local and Regional Programs Federal Funds | Local and Regional Programs Local Funds |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Iowa | 2.789 | .062 | 171,764 | 121,736 | 50,028 | – | – | – | 171,764 | 121,736 | 50,028 |
| Kansas | 2.222 | .106 | 236,100 | 127,666 | 108,434 | 96,433 | 46,766 | 49,667 | 139,667 | 80,900 | 58,767 |
| Kentucky | 3.160 | .336 | 1,063,442 | 534,370 | 529,072 | 783,555 | 438,370 | 345,185 | 279,887 | 96,000 | 183,887 |
| Louisiana | 3.546 | .095 | 336,202 | 154,000 | 182,202 | 336,202 | 154,000 | 182,202 | – | – | – |
| Maine | .977 | .083 | 81,000 | 54,000 | 27,000 | 81,000 | 54,000 | 27,000 | – | – | – |
| Maryland | 3.874 | .608 | 2,350,264 | 599,304 | 450,489 | 1,049,793 | 1,435,556 | 914,708 | 1,300,471 | 836,252 | 464,219 |
| Massachusetts | 5.630 | .184 | 1,039,117 | 324,000 | 195,000 | 519,000 | 574,500 | 464,617 | 520,117 | 250,500 | 269,617 |
| Michigan | 8.776 | .265 | 2,032,483 | 281,036 | 232,001 | 513,037 | 1,317,687 | 714,796 | 1,519,446 | 1,036,651 | 482,795 |
| Minnesota | 3.767 | .167 | 626,759 | 133,474 | 139,937 | 273,411 | 326,853 | 299,906 | 353,348 | 193,379 | 159,969 |
| Mississippi | 2.158 | .046 | 100,000 | 66,000 | 34,000 | 100,000 | 66,000 | 34,000 | – | – | – |
| Missouri | 4.636 | .317 | 1,465,098 | 183,588 | 139,079 | 322,667 | 768,201 | 696,897 | 1,142,431 | 584,613 | 557,818 |
| Montana | .682 | .394 | 269,024 | 85,672 | 66,057 | 151,729 | 155,441 | 113,583 | 117,295 | 69,769 | 47,526 |
| Nebraska | 1.468 | .099 | 145,594 | 62,992 | 31,496 | 94,488 | 89,729 | 55,865 | 51,106 | 26,737 | 24,369 |
| Nevada | .481 | .765 | 368,494 | 0,740 | 10,370 | 31,110 | 213,599 | 154,895 | 337,384 | 192,859 | 144,525 |
| New Hampshire | .722 | .099 | 71,948 | 1,000 | 37,948 | 71,948 | 34,000 | 37,948 | – | – | – |
| New Jersey | 7.089 | .371 | 2,623,735 | 1,182,431 | 1,197,987 | 2,380,418 | 1,346,369 | 1,277,366 | 243,317 | 163,938 | 79,379 |
| New Mexico | .998 | .365 | 364,912 | 152,214 | 102,535 | 254,749 | 216,972 | 147,940 | 110,163 | 64,758 | 45,405 |
| New York | 17.979 | .565 | 10,192,912 | 845,400 | 2,314,664 | 3,160,064 | 2,527,285 | 7,665,627 | 7,032,848 | 1,681,885 | 5,350,963 |
| North Carolina | 4.961 | .191 | 949,890 | 233,108 | 171,054 | 404,162 | 586,448 | 363,442 | 545,728 | 353,340 | 192,388 |
| North Dakota | .610 | .044 | 27,160 | 15,000 | 12,160 | 27,160 | 15,000 | 12,160 | – | – | – |
| Ohio | 10.542 | .168 | 1,756,352 | 723,335 | 1,033,017 | 280,496 | 100,000 | 180,496 | 1,475,856 | 623,335 | 852,521 |
| Oklahoma | 2.498 | .099 | 241,587 | 127,365 | 114,222 | 168,463 | 89,208 | 79,255 | 73,124 | 38,157 | 34,967 |
| Oregon | 2.056 | .522 | 1,070,140 | 546,600 | 523,540 | 307,739 | 79,443 | 228,296 | 762,401 | 467,157 | 295,244 |
| Pennsylvania | 11.663 | .437 | 5,097,648 | 2,337,033 | 2,760,615 | 2,978,054 | 1,204,222 | | 2,119,594 | 1,132,811 | 986,783 |
| Rhode Island | .922 | .186 | 169,651 | 83,418 | 86,233 | 169,651 | 83,418 | 86,233 | – | – | – |
| South Carolina | 2.522 | .263 | 670,212 | 303,403 | 366,804 | 454,429 | 165,664 | 288,765 | 215,783 | 137,744 | 78,039 |
| South Dakota | .661 | .00 | – | – | – | – | – | – | – | – | – |
| Tennessee | 3.383 | .413 | 1,392,357 | 885,794 | 506,563 | 651,824 | 420,094 | 231,730 | 740,533 | 465,700 | 274,833 |
| Texas | 10.989 | .167 | 1,835,921 | 1,160,894 | 675,027 | 617,850 | 379,134 | 238,716 | 1,218,071 | 781,760 | 436,311 |
| Utah | 1.060 | .208 | 221,356 | 98,996 | 122,360 | 221,356 | 98,996 | 122,360 | – | – | – |
| Vermont | .437 | .18 | 78,975 | 52,650 | 26,325 | 78,975 | 52,650 | 26,325 | – | – | – |
| Virginia | 4.543 | .118 | 536,039 | 287,896 | 248,143 | 316,820 | 150,260 | 166,560 | 219,219 | 137,636 | 81,583 |
| Washington | 3.352 | .708 | 369,819 | 1,184,855 | 1,184,964 | 1,173,000 | 450,000 | 723,000 | 1,196,819 | 734,855 | 461,964 |
| West Virginia | 1.701 | .263 | 446,695 | 221,187 | 225,508 | 422,373 | 211,187 | 211,186 | 24,322 | 10,000 | 14,322 |
| Wisconsin | 4.366 | .042 | 183,437 | 54,800 | 128,637 | 174,000 | 50,000 | 124,000 | 9,437 | 4,800 | 4,637 |
| Wyoming | .328 | .121 | 39,950 | 25,720 | 14,230 | 39,950 | 25,720 | 14,230 | – | – | – |
| Puerto Rico | | | 244,720 | 140,716 | 104,004 | 244,720 | 140,716 | 104,004 | – | – | – |
| Virgin Islands | | | 59,862 | 39,392 | 20,470 | 59,862 | 39,392 | 20,470 | – | – | – |
| Totals | | | 64,530,967 | 26,076,203 | 38,454,764 | 26,865,623 | 11,273,009 | 15,592,614 | 37,665,344 | 14,803,194 | 22,862,150 |

A control agency must perform many different and difficult roles. It must serve not only as the management center for the State's or region's control of pollution, but must also perform technical, engineering and enforcement services as well. The basis of a strong, dynamic control agency is a thorough control strategy, a well-funded program and a competent staff, sufficient in number to perform its many jobs. The following is a list of functions, drawn up by the Department of Health, Education and Welfare, that a control agency must be able to undertake.

1. Management Services

–Policy, public relations, intergovernmental relations and development of control strategies and plans: These functions include the variety of special activities required of an agency director and his immediate staff in order to conduct a meaningful control program. As an agency increases in size, specialists such as systems analysts, public relations experts, and technical writers may be involved. For small agencies, these skills may be part of the duties of the major supervisors.

–Administrative and clerical support: This function includes budgeting, record keeping, filing, typing and related work, as normally required to operate an agency. Clerical staff of the agency are included in this category.

2. Technical Services

–Laboratory operations: This function includes all laboratory support activities necessary for source sampling, ambient air monitoring and special studies.

–Operation of monitoring network: This function relates to the routine servicing and operation of air sampling and meteorological instruments deployed in the field for continuous surveillance of air quality and diffusion characteristics. The data generated are used as input in diffusion models for prediction of future air quality and the development of control regulations; to determine the effectiveness of agency operation in reducing and/or preventing air pollution; information and education purposes.

–Data processing: This function includes data reduction processing, and statistical treatment for air sampling meteorology, emission calculations and development of inspection schedules.

–Special studies: This function includes a variety of special studies conducted for purposes of locating sampling stations, determining contribution of specific sources to ambient air pollution levels, and determining need for new regulations.

–Instrument calibration and maintenance: this function includes those duties to ensure the proper operation of sampling, analytical and meteorological instruments operated by the agency.

3. Enforcement Services

–Complaint handling and field patrol: This function includes the operation of a continuous field patrol to enforce regulations on open burning, visible emissions, odors, etc.

4. Engineering Services

–Calculation of emission estimates: This function relates to the work done in estimating emission rates from various sources and source categories to provide information on program effectiveness, potential future problems within an agency's area of jurisdiction, location of sampling stations, and need for new regulations.

–Development of control regulations, preparation of technical reports on control and review of industrial control plan for episodes. These areas are generally project-oriented or considered part-time responsibilities of the engineering staff.

Generally, this estimate by HEW of the manpower necessary to run an effective control agency is probably conservative. It would staff an efficient agency that could deal fairly adequately with any problem they know about. It does not appear, however, to staff an agency that actively goes out and tracks down pollu-

ters, or maintains continuous monitoring of sources, or is able to judge whether violations exist based on polluters' reports. HEW makes no provisions for the legal manpower that will be necessary to bring suits against violators. If a control agency is going to be effective, it must be able to undertake active and vigorous action of all types. Citizens should make sure that their States' agencies do not serve just as administrative centers.

In general, the cost of a control agency will vary greatly, depending on how much of the economic burden of collecting information polluters must be made to bear. This cost may involve establishing and running monitoring and testing systems, and of keeping detailed records. This point is more thoroughly discussed above at pages 30-38.

3. *Future Manpower Needs*

A predictive model was developed and used by the government to estimate the manpower needs of State and local air pollution control agencies. The modeling procedure assumes that the workload in an air pollution control program is related to certain economic-geographic-demographic characteristics such as land-area, number of manufacturing establishments, population and rate of new capital expenditures for industrial plants in the area served, and to the nature and extent of the regulatory functions of such a program.

Four types of programs have been defined by HEW for the purpose of estimating manpower needs (only one of these categories may apply to the program or programs in your State):

1. *State programs* – encompassing administration of programs in any areas of the State not covered by a comprehensive local or regional program. (Under the 1970 Amendments, the State agency retains supervisory responsibility for all other areas also.)

2. *Comprehensive local or regional program* – at least county-wide, with boundaries defined by standard metropolitan statistical areas (SMSA). Such programs operate without support from the State.

3. *Noncomprehensive local or regional programs* – for SMSA's without sufficient resources for engineering activities. Supplementary manpower is provided at the State level.

4. *Minimal regulatory program* – for small SMSA's or for cities of 25,000 – 50,000 outside SMSA's for all operation of sampling equipment, answering of complaints, and annual inspection of boilers and incinerators.

In practice, the amount of time that an air pollution control agency spends on a given function depends on a number of factors, including age and size of the agency, number and type of regulators, nature of work (i.e. correction versus prevention), etc. The HEW prediction model is based on an ideal agency that has resources to perform all assigned functions, has overcome initial problems, and has a program underway. Accordingly, based on the economic-demographic data available in 1969, State and local agency requirements are expected to increase from 2,300 persons actually employed to estimated 8,000 by 1974. The greatest needs are for engineers, administrative and clerical personnel, inspectors, and technical people. In 1969, there were approximately 700 full-time engineering positions. By 1974, there will be 1,464 positions to be filled. The same increase in positions is expected to occur in all the professions associated with control programs. To meet these projections, State and local air pollution control agencies must increase personnel almost 300% over the next four years. The agencies are expected to have major recruitment problems. There are just not enough qualified persons to meet the expanding needs of the control agencies. The air pollution control office of EPA plans to expand its efforts to meet these needs through recruitment of professional personnel, through university and community college sponsored training, and through the establishment of a job register referral system for State and local employment opportunities.

How can your State conduct its control strategy without a sufficient staff? Until adequate personnel is available, encourage your State to make use of federal technical assistance. Under the Clean Air Act of 1970, assistance is available to State and local agencies in developing air quality monitoring programs, designing emission inventories, meterological studies, simulation modeling, data processing and developing laws and regulations. EPA has also contracted with a number of private consulting companies that have agreed to assist States in formulating their implementation plans. The list of these companies is included in the Manual on pages 68-9. Citizens should realize that, although competent staff is not available in the numbers the country now requires to man State, local and regional programs' there are ways that agencies can deal with this shortage and still produce and enforce an adequate implementation plan.



## IV. SUBMISSION AND APPROVAL OF IMPLEMENTATION PLANS

This Part discusses and suggests responses to a set of interrelated problems concerning the submission and approval of implementation plans, including extensions of submission deadlines, submission of inadequate plans, and possible legal action against EPA approval of inadequate plans or unwarranted extensions.

### A. EIGHTEEN-MONTH EXTENSION OF SUBMISSION DEADLINE FOR SECONDARY STANDARD IMPLEMENTATION PLANS

Section 110(b) of the Act states:

> "The Administrator may, whenever he determines necessary, extend the period for submission of any plan or portion thereof which implements a national secondary ambient air quality standard for a period not to exceed eighteen months from the date otherwise required for submission of such plan."

The Act says nothing about what makes an extension "necessary." The Guidelines (section 420.31) add four conditions:

> –Only Priority I and II air quality control regions may receive such extensions.
>
> –Any request for an interstate AQCR must be made jointly or with the knowledge of the other States in the region.
>
> –Any request for an extension must demonstrate that "attainment of the secondary standards will require emission reductions exceeding those which can be achieved through the application of reasonably available control technology."
>
> –Any request must be submitted long enough before January 30, 1972, to allow the State to submit an adequate Secondary Standard implementation plan by that time if the extension request is denied.

These are loose conditions, and you may expect that your State will be pressed hard by industry to request such extensions. Though it seems the stiffest, the third condition is the weakest, because it is pegged to the formal definition of "reasonably available control technology" in section 420.1(o) of the Guidelines. Remember that this definition, in effect, allows a State to adjudge control devices as "not reasonably available" because their "economic impact" (that is, cost) is too great. (See pages 16-17, above, for discussion of this point.)

Remember also that sulfur oxides and particulate matter are the only pollutants for which the national Secondary Standards are stiffer than the Primary Standards; for the other pollutants, the Standards are identical. This means that requests for extensions of the deadline for submission can only come for plans implementing the Secondary sulfur oxide and particulate Standards. The Guidelines require, moreover, that Secondary sulfur oxide Standards be met three years after EPA approval of a plan implementing them unless certain exemption conditions are met.

The practical result of all this will be that sulfur dioxide polluters will put heavy pressure on State agencies to request 18-month extensions on the grounds that cleaning up in three years is too expensive. Equip yourself to counter this pressure by arguing that the "economic impact" language in the Guidelines' definition of "reasonably available control technology" is not warranted by the Act. Learn about the costs of controlling sulfur dioxide pollution, since there seems reason to suspect the cost contentions of at least the copper industry with respect to sulfur dioxide control.

Find out quickly if your State plans to request an extension for any air quality control region. If the answer is that they are not sure, point out the fourth requirement for an extension listed above and warn that failure to submit an adequate plan for a Secondary Standard will result in EPA's writing one that the State must then enforce.

If the answer is that the State will request an extension, get a copy of the formal request and whatever information was submitted to demonstrate that reasonably available control technology is not adequate to meet the Standards. You have a perfect right to this information. Ask both the State and the regional EPA office for it.

Assess the arguments in the request. It may be that the extension is genuinely needed, particularly if the State agency is already having difficulty writing the Primary Standard plans. Try to get expert help to evaluate the request, particularly if it is based on cost arguments. Submit written comments on it to your Governor, the State agency and to EPA, and try to deal with the request at any hearings this fall on Primary Standard implementation plans. Remember that nothing in the Act or the Guidelines requires that the extension be 18 months long. Make sure that the arguments backing up the request justify the



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length of the extension requested. A request based heavily on cost arguments made through the definition of "reasonably available control technology" is particularly open to challenge. If you are displeased enough with the extension request to consider court action if it is approved, be sure to make this clear in advance.

### B. FAILURE TO SUBMIT ADEQUATE IMPLEMENTATION PLANS

Section 110(c) of the Act states:

"The Administrator shall, after consideration of any State hearing record, promptly prepare and publish proposed regulations setting forth an implementation plan, or portion thereof, for a State if:

(1) the State fails to submit an implementation plan for any national ambient air quality primary or secondary Standard within the time prescribed,

(2) the plan, or any portion thereof, submitted for such State is determined by the Administrator not to be in accordance with the requirements of this section . . . .

The Administrator shall, within six months after the date required for submission of [a] plan . . . promulgate any such regulations unless, prior to such promulgation, such State has adopted and submitted a plan. . . which the Administrator determines to be in accordance with the requirements of this section."

These provisions have their good and bad sides. They are good in that they prevent an endless trading back and forth between a State and EPA of slightly revised versions of a plan. Instead, there is a definite deadline. EPA must respond quickly to an inadequate plan proposing revisions. These will amount, in practice, to suggestions to the State to revise and resubmit its plan as EPA desires. If the State fails to do this for six months, the revisions go into effect anyway, and the State is responsible for implementing and enforcing the entire plan.

The bad side is that a State can use these provisions to get what amounts to a six to ten month extension of the submission deadline for Primary and Secondary Standard implementation plans. A State may submit a plan in January that it knows is inadequate, wait for six months after EPA rejects it, then submit an adequate plan at the last minute. EPA's proposed revisions then become a kind of free preliminary review.

With or without these procedures, of course, a State might submit no plan at all. Such a State would still be responsible for implementing and enforcing whatever regulations EPA promulgated, but the further problem would then be likely to arise that States would be unwilling to enforce whatever plan or parts of a plan EPA imposed.

Respond to any clear State intention of not submitting a plan, or of submitting a clearly inadequate plan, by publicizing the fact and bringing whatever pressure you can to bear on the State. Since it is not illegal to fail to submit an adequate plan or to submit no plan at all, you have little additional recourse in response to this problem except to argue to the State that it, not EPA, will be responsible for enforcing whatever plan EPA imposes.

Making this argument will be tricky, but it can be effective if done carefully. The State will point out first that a person (including any governmental agency) can be sued under the citizen suit provision of the Act (Section 304) *only* for violation of an "emission standard or limitation or an order issued by the Administrator [of EPA] or a State with respect to such a standard or limitation." Nowhere is provision made for citizens to sue a State for failing to enforce an implementation plan, whether its own or EPA's.

Section 113, however, allows EPA to step in and enforce a plan if the State fails. The State will point out next that this provision (Section 113(a)(2)) *requires* only that EPA give notice that State enforcement of the plan is inadequate; EPA is not required, but only *may*, issue compliance orders to force persons to comply with the State plan. This means, in effect, that citizens cannot sue to force EPA to step in when States fail to enforce a plan. The State may also point out that EPA will have difficulty stepping in to enforce an entire State plan, particularly if several States do nothing.

The response to this is that there is a much easier way EPA can ensure that States will enforce their plans. The first part (113(a)(1)) of Section 113 says that the Administrator, in response to information made available to him from any source, shall first notify and then may order any person to comply with "any requirement of an applicable implementation plan." Since the State agency is a "person," the Administrator may order the State to comply with anything it is required to do under the implementation plan, and citizens *can* sue the State for violating that order. While EPA is not obliged to issue such orders, it will be very likely to if the State is failing to enforce a plan and if EPA knows that citizens are ready to sue for non-compliance with such orders. Issuing these orders, moreover, will relieve EPA of some of its enforcement burden, and it will be that much more likely to issue the orders. It might even anticipate this procedure by writing into the plan it imposes on a recalcitrant State as many specific requirements as possible. All of this, along with your intention to provide the necessary legal action, should be made clear to a State that appears unlikely to enforce an implementation plan.



### C. LEGAL ACTION AGAINST IMPLEMENTATION PLANS AND EXTENSIONS

The EPA Administrator's approval of an implementation plan or grant of an extension can be overturned in court, provided an adequate basis for the action has been laid beforehand. It is not easy, and you should not count on it. Consider it an outside chance, to be pursued if all else fails. You almost surely will have a greater chance of success by working within the prehearing procedures, unless your State is simply and openly hostile to implementing the Act. Under these circumstances, the State is likely to make the kind of mistakes which increase your chances of success in court. In any case, lay the foundation ahead of time, so that the option remains and can be used to bargain with.

An implementation plan submitted for EPA approval can be inadequate for reasons that fall into two categories:

–The plan was adopted by the State using faulty procedures: failure to give adequate public notice or to make the proposed plan available, failure to hold a hearing, changing the plan fundamentally after the hearing, etc.

–The content of the plan does not meet the requirements of the Act and Guidelines.

Three of the four kinds of extensions open to the States are likely to be granted between now and the end of the four month approval period beginning on January 30, 1972.

–Eighteen-month extensions of the submission date for Secondary Standard implementation plans must be granted well in advance of January 30.

–Two-year extensions of the time in which a State must comply with a national Primary Standard must be granted when the original plan is approved.

–Extensions of the time in which a State must comply with the Secondary sulfur oxide Standard must be granted when the original plan is approved.

A plan or an extension can be overturned by petitioning the United States Court of Appeals for the Circuit in which you live for review of the Administrator's decision to approve the plan or grant the extension (Section 307(b)(1)). If a court is asked to "review" the Administrator's decision, it is charged only with determining whether, based on the information he had available to him – the "facts on the record" – the Administrator made a reasonable decision. Only if the decision was largely inconsistent with the facts on the record – if it was "arbitrary" or an "abuse of discretion" – may a court overturn the decision.

It is all-important, therefore, that you do everything possible to get all your arguments and evidence against a plan or extension "on the record" before the Administrator, before he examines it. Arguments made and background information submitted at the public hearing will appear in the transcript which must be submitted to the Administrator and which he must consider. In many States, written testimony can be submitted for a certain period after the hearing is over. Any of the three kinds of extensions, not just the content of a proposed plan, can validly be discussed at the hearings. Written arguments should also be sent to the Administrator after a proposed plan or a request for an extension has been submitted to him. Make your arguments detailed and factual, and submit as much technical information and expert testimony as possible.

If you think that legal action may be necessary, try to get the help of an attorney well in advance of January. You will be able to develop your case sufficiently to indicate to the State and to EPA that you intend to challenge the plan or the extension in court, and you will be able to begin building a record adequate to overturn any adverse decision the Administrator makes.

## V. EXEMPTIONS AND VARIANCES

The Act and Guidelines contain several procedures for postponing compliance with the requirements of the Act or of implementation plans:

–an 18-month extension of the deadline for submitting plans implementing a Secondary Standard,

–a 2-year extension of the time in which a state must comply with the national Primary Standards,

–a 1-year extension of the time in which certain sources must comply with certain measures of an implementation plan, and

–an extension of the time in which a state must comply with national Secondary Standards for sulfur oxides.

It is essential that you know these procedures well and pay constant attention to their implementation and enforcement. The first has been discussed on pages 51-2. The others are dealt with here.

### A. TWO-YEAR EXTENSION OF PRIMARY STANDARDS COMPLIANCE TIME

1. *Requirements of the Act and Guidelines*

Under Section 110(e) of the Act and Section 420.30 of the Guidelines, the Administrator may extend from three up to five years the deadline for attaining a Primary Air Quality Standard in an air quality control region. The Governor of the State must request such an extension at the time that the plan implementing that Standard is submitted. The Act sets strict conditions to be met before this extension can be granted:

1. The Governor must show that certain sources of the pollutant in question can not comply with the requirements needed to meet the Primary Standard for that pollutant in in three years because "necessary technology or other alternatives" will not be available in time.

2. The State must have "considered and applied reasonably available alternative means" of meeting the Standard and still concluded that it could not be done in time.

3. All sources other than the ones that cannot comply will still have to meet the requirements of the original plan for implementing the Primary Standard in three years.

4. The State must still apply "interim measures of control" acceptable to the Administrator to those sources that cannot comply with the requirements of the original plan.

The Guidelines elaborate on these conditions. A two-year extension may be sought only in Priority I regions (see section 420.3 of the Guidelines for a definition). A request for extension in an interstate region must be made with the Governors of all States included in the region. An implementation plan must be submitted by the State at the time the request for the extension is made. This plan must:

–set forth a control strategy for implementing the Primary Standard;

–show that necessary technology or alternatives needed for certain sources to carry out that control strategy in three years will not be available in time;

–provide for attainment of the Primary Standard *as fast as possible*, but in no case later than five years after the plan is adopted;

–identify any alternative means of attaining the Primary Standards that were rejected;

–show that sources that can comply will be required to; and

–show that interim measures will be applied to the sources that cannot comply.

2. *What to Do*

Until standards are set for new pollutants, the only requests for two-year extensions that can be made must be made on January 30, when plans implementing Primary Standards must be submitted. The Act does not allow extensions to be requested along with submission of revisions of plans, and the January 30 deadline cannot be extended. If you are concerned with a Priority I region, then, be on the lookout for these requests this fall.

If a request for an extension is to be made, it will probably be discussed at the hearings on the proposed plan. If the agency decides to make the request, the proposed plan that is available 30 days in advance should meet the requirements of the Act and Guidelines and contain detailed reasons why the extension is necessary. If the

agency is not itself inclined to make the request for an extension, industry may press them to do so, and such pressure is likely to come before and during the hearings. Be ready to meet these arguments at the hearings.

First, remember that a request for an extension must be submitted along with a full-scale implementation plan; the agency cannot simply request an extension and promise to get around to the plan later on. In all respects, except the statement of when the Primary Standard will be achieved and the measures to be applied to the sources that cannot comply with the original three-year requirements, this plan must be an acceptable plan for implementing the Standards in *three* years. An extension of the time limit for attaining the Standard because certain sources cannot comply is not a license to loosen the requirements for all sources.

Scrutinize carefully the case for requesting the extension. Make sure that it meets all the requirements set by the Act and the Guidelines. If possible, get someone with technical expertise to assess the crucial arguments about availability of necessary technology. Remember that the Act and Guidelines make no mention of considering cost or economic impact when assessing availability of technology. The fact that some device is expensive does not mean that it isn't available.

Make sure that "other alternatives" are also not available. "Necessary technology" means pollution control devices, such as wet scrubbers or precipitators. "Other alternatives" include such things as fuel composition controls, process changes, and land use and transportation controls. Make sure that these and other alternative measures have been either adopted or found not available or inadequate to produce compliance with the Primary Standard in three years.

The Guidelines require that the plan provide for attainment of the Standard "as expeditiously as practicable." Make sure that your State's plan does not allow five years when four would do.

Remember that thorough testimony at the hearings is important. The Administrator's decision to grant a two-year extension must be made, and can only be challenged, upon the contents of the plan submitted with the request and the record of the hearings on that plan.

It is possible that the agency might decide after the hearings to request a two-year extension. If you suspect, before or during the hearings, that this might happen, bring it up at the hearings. Even if you suspect nothing, the possibility of a last-minute request is an excellent reason for keeping close watch on the agency after the hearings. If such a request is made and a modified plan submitted, make sure you get a full copy of the request, the modified plan and other supporting documents as soon as possible. If you don't think the request is justified, publicize your objections and start putting pressure on your Governor and the agency. State your objections in writing to the regional EPA director and to Administrator Ruckelshaus. Contact the Project on Clean Air staff for help in this.

If a last-minute request was not dealt with at all at the hearings, there is probably a strong case for convincing the Administrator not to approve the request and its accompanying plan, or to overturn his approval should he grant it. It can be argued that any such plan submitted with a request for an extension must have been so extensively modified from the plan discussed at the hearings that it requires further hearings. If a last-minute modification of the plan is made, the public will not have had the required opportunity to deal with the arguments for or against the modification. If this line of reasoning fails to convince the Administrator to return the plan for further hearings, his approval of the plan and extension can be challenged in court on the same grounds. Mention made to the Administrator and the appropriate officials that you are considering court action may help forestall State adoption or EPA approval and bring the modified plan back for more public attention.

Remember that whether or not a request for extension was dealt with at the hearings, if you think the arguments for it are unsound, you can challenge the Administrator's approval in court. See page 53 for a discussion of how this is done.

## B. VARIANCES

### 1. *Requirements of the Act and Guidelines*

Under Section 110(f) of the Act and Section 420.32 of the Guidelines, the Administrator may postpone the applicability of a requirement of an implementation plan to a stationary source or class of moving sources for up to one year. The Governor of the State in which the source is located can make a request for such a postponement at any time before the source is originally required to comply with the requirement of the plan. The Act sets, and the Guidelines amplify, four strict requirements all of which must be met for a request to be granted.

Under the Act, the Administrator must be satisfied that:

- –"good faith efforts" were made to comply with the requirement of the plan by the original deadline;
- –the source to be exempted cannot comply with the requirement in time because "necessary technology or alternative measures of control" are not available in time;
- –"...any available alternative operating procedures and interim control measures have reduced or will reduce the impact of such source on public health, and"
- –"[t]he continued operation of such source is essential to the national security or to the public welfare."

The Act requires (Section 110(f)(2)(A)) that the Administrator's decision must be made on the record after notice and hearings, must be based on the entire record of the hearings, and must include a detailed statement of the reasoning behind the decision. The Act also provides (Section 110(f)(2)(B)) that the Administrator's decision can be challenged in court, and (Section 110(f)(2)(C)) that this court action must proceed as rapidly as possible, taking precedence over everything else on the court's docket. Section 110(f)(2)(D) gives the Administrator power to subpeona witnesses and information in any hearing or court action connected with requests for one-year postponements.

The Guidelines elaborate on the Act:

- –Any request involving an interstate region must be made by the Governors of all the States included in the region.
- –A request must identify which sources cannot comply with which provisions of the control strategy, and must include the information necessary for the Administrator to judge whether the conditions of the Act have been met.
- –The hearings on a request must be held sometime within the year preceding the date on which the source was originally required to comply.
- –While the request is being processed, the original provisions of the control strategy are still in effect for the source requesting the postponement.
- –If the State wishes to grant a postponement to a source, and that postponement will not "prevent attainment or maintenance" of a National Air Quality Standard, the State is not required to submit a request to the Administrator.

### 2. *What to Do*

Since "postponement of the applicability of a requirement of the implementation plan" is nothing more than a variance, the effect of these sections of the Act and Guidelines is to require public participation in and federal approval of any variances that jeopardize the attainment of National Air Quality Standards.

The Act and Guidelines impose stiff conditions on requests for these variances. A request must meet all four of the requirements of the Act at the same time. Hearings must be held, and the decision is subject to quick judicial review. No polluter can submit a request just before compliance is required and fail to comply on the grounds that the request is pending.

There are, however, several weaknesses in the request procedures that require close attention.

- –The phrase "good faith efforts" is vague. You should be sure that anyone claiming such efforts has done everything possible to comply.
- –What is "essential to the national security" is usually open to dispute. Use the narrowest possible definition.
- –"Public welfare" might be construed to mean a "healthy economy" or "maintenance of productive capacity." Again, allow nothing but a definition consistent with the meaning of this term in Section 109 and the Senate Report.
- –The Act and Guidelines say nothing about how long before hearings notice is to be given and whether copies of the request and supporting documents will be available in advance. Press for full, advance disclosure by the State of copies of any request for postponement and its supporting documents. Try to get such procedures written into your implementation plan. Since hearings on requests will probably be held through regional EPA offices, press the regional director to follow hearing procedures like those in the Guidelines for proposed implementation plans or like those described on page 58.

The most serious weakness of the procedures for granting one-year extensions of compliance time is that they apply to only one category of variances –those variances that will jeopardize attainment or maintenance of a National Air Quality Standard. Section 420.32(f) of the Guidelines states that variances that do not jeopardize national Standards need not be put through these procedures. Section 420.15(d) reiterates:

"Except as otherwise provided by Subpart C of this part, neither the State agency nor a local agency shall grant any variance of, or exception to, any compliance schedule included in an applicable plan if such variance or exception will prevent, or interfere with, attainment or maintenance of a national standard within the time(s) specified pursuant to §420.10(b) and (c)."

("Except as otherwise provided by Subpart C" refers to the one-year postponement procedures in section 420.32. That is, the only time a state or local agency can grant a variance that jeopardizes a national Standard is when it has requested and received federal permission. Sections 420.10(b) and (c) require that the plan specify when the Primary and Secondary Standards will be met.)

There are several situations in which the State could grant a variance from an implementation plan that would not jeopardize attainment of a national Air Quality Standard.

–An implementation plan might contain measures somewhat stricter than those required to attain the Standard in the specified time. A State could grant a variance from such requirements without following the one-year postponement procedures. The length of the postponement granted could be more than a year, and could extend up to the point where the variance would begin jeopardizing attainment of the national Standard.

–The Guidelines refer to national Standards only. States are allowed to set tougher standards, and their implementation plans would probably have correspondingly tougher requirements. Again, States would be free to grant variances from these tougher requirements without going through the postponement procedures, since they would not be jeopardizing any national Standard.

–Another such situation might occur when a State has been granted a two-year extension of the deadline for attaining the Primary Standard in a given AQCR. One of the conditions for federal approval of such an extension is that those sources which *could* comply with the requirements of a plan to attain the Primary Standard in three years would still have to, even though the requirements for other sources (those which couldn't comply with the original plan) would be modified and up to two extra years would be allowed to meet the Standard (see pages 54-5).

A State could grant a variance to one of the sources functioning under the requirements of the original (three-year) plan without following the one year postponement procedures, because such a variance might not jeopardize attainment of the Primary Standard *in the time specified in the approved implementation plan.* (Remember that the time specified in the modified plan will be between three and five years after the plan is approved and the request for an extension granted. If the deadline is extended the full two years, and if the interim measures for the sources that couldn't comply are not too strict, another source might successfully argue that extending the deadline for it to comply would not jeopardize attainment of the Standard.)

Fortunately, the Guidelines and the Act ensure that none of these variances can be granted without at least federal approval, and probably public hearings.

Section 420.32(f) ends by stating:

"... provided, however, that such determination [a State's determination to grant a variance that does not jeopardize attainment of a national Air Quality Standard] will be deemed a revision of an applicable plan under §420.6."

Section 420.6 states:

"(c) Revisions of rules and regulations included in an applicable plan shall be adopted after reasonable notice and public hearings....

(d) Any revision of rules and regulations and of compliance schedules shall be submitted to the Administrator... within 60 days following its adoption.

(e) Revisions other than those covered by paragraph (b) of this section [revisions made in response to changes in national Standards or technology or because the plan is inadequate] shall be identified in the semi-annual report...."

Section 420.8 states:

"The Administrator shall approve any plan, or portion thereof, or any revision of such plan, or portion thereof, if he determines that it meets the requirements of the Act. Revisions of a plan, or any portion thereof, shall not be considered part of an applicable plan until such revisions have been approved by the Administrator in accordance with this part."



Section 420.6(d) guarantees, at least, that all State-granted variances which will not jeopardize a national Standard must have federal approval before taking effect. Together with section 420.6(c), section 420.6(d) seems to indicate that public hearings on these variances will not be required. A variance is a change in a compliance schedule, not a change in a rule or a regulation.

As we noted on page 42, however, section 420.6(c), (d), and (e) contradict the Act, which says that the Administrator shall "approve *any* revision of an implementation plan... if he determines that it... has been adopted by the State after reasonable notice and public hearings." [Our emphasis]

What should you do? Check the variance provisions of the proposed plan. Most States already have variance procedures of some kind, and the procedures in the proposed plan will probably reflect the existing ones. Some States may simply write the old procedures into the proposed plan and take no account at all of the fact that all variances from the plan must be federally approved.

Attack this problem by dividing all possible variances from the plan into two categories: those that will jeopardize attainment of a national Standard, and those that will not. Point out to the people responsible for writing the plan that the first category of variances must be requested from EPA through the procedures outlined in the Act and Guidelines. Press for provisions in the plan requiring that such requests and their supporting documents be made public.

Point out that the second category of variances are all considered revisions of the plan, and that such variances must be processed by the same procedures used for any revision of an implementation plan. These are procedures required to be in the plan by Section 110(a)(2)(H) in order for it to be approved. Pay close attention to these revision procedures. Point out that the Guidelines contradict the Act in this respect, and that the Act clearly requires reasonable notice, public hearings and federal approval of all revisions of a plan. Press for procedures incorporating:

– prominent advertisement of the date, time and place of all hearings on proposed revisions of the plan at least 30 days in advance;

– public availability at least 30 days in advance of complete copies of any proposed revisions and any supporting documents; including, if the proposed revision is a variance from the plan, a detailed statement why the requested variance will not jeopardize the attainment or maintenance of a national Standard;

– the right of any interested person at the hearing to cross-examine the person requesting a variance;

– a requirement (similar to Section 110(f)(2)(A)(iii) of the Act) calling for a detailed, publicly available, statement of the State's decision after the hearing;

– public availability of a complete transcript of the hearings;

– a requirement (similar to Sections 110(f)(2)(B) and (C) of the Act) providing for quick judicial review of the State's decision;

– a stipulation (similar to section 420.32 of the Guidelines) that no request for a variance releases the applicant from complying with the original requirements of the plan until the request is granted or denied;

– a requirement that the applicant for a variance demonstrate that compliance is impossible because necessary technology or alternatives are not available, that full efforts have been made to comply, and that all possible interim measures for control will be implemented according to a specific schedule;

– a specific limitation on the time periods for which variances can be granted (say, one year), and a requirement that a request for renewal of the variance be treated in the same way as any other request for a variance; and

– a stipulation that no variance granted to a source will operate to exempt it from the requirement of an applicable emergency episode plan.

Make sure that existing State law and regulations give the State adequate authority to do all these things. If the law is adequate but the regulations are lacking, point out that the State can simply promulgate such regulations. Make sure that no loose statements about economic

feasibility appear in the conditions for variances. There is no authority under the Act for such considerations in approving a plan or a revision of a plan.

Make sure either that no one except the State air pollution agency is given authority to grant variances from the plan, or that, if such agencies – particularly local authorities – can grant variances, they are required to follow the same procedures as the State agency. The phrase in the Guidelines (section 420.32(f)) that defines even variances which do not jeopardize national Standards as revisions of the plan, says nothing about local agencies. Make sure these are subject to State variance procedures.

If it looks as though the State agency is going to ignore the requirements of the Act for revision procedures, make it clear that you will attempt to overturn that part of the plan by appeals to the Administrator after the plan is submitted, or by legal action if the plan is approved. This may in itself produce the desired result, but if it becomes necessary to sue, remember that the requirements in the Act for public notice and hearings are unequivocal. It will also be useful to point out that section 420.6(c) already requires, for revisions of rules and regulations in the plan, notice and hearing procedures as thorough as those required for proposed implementation plans.

A final point: All discussion of variances so far has dealt with variances from State implementation plans under the Clean Air Act. It is possible that a State will have its own rules and regulations that are geared to meeting a State air quality standard and that these will not be submitted as part of the plan implementing a national Standard. Both the rules and regulations and the State standards are permissible as long as the standards are as strict or stricter than the national ones. There is nothing in the Act about variances from *State* laws which have not been submitted to the federal EPA as part of a plan implementing a *national* Air Quality Standard. It is still likely, though, that a State might submit an implementation plan providing for attainment of stricter State standards. Variances from this plan would have to be treated as revisions of the plan under the Act.

## C. EXTENSIONS OF SECONDARY SULFUR OXIDE STANDARDS COMPLIANCE TIME

### 1. *Requirements of the Act and Guidelines*

Though it does not appear in the Act or the "Extensions" section of the Guidelines, there is another exemptions provision written into the regulations. Section 420.13(b)(1) states:

> "In any region where the degree of emission reduction necessary for attainment and maintenance of a secondary standard for sulfur oxides can be achieved through the application of reasonably available control technology, "reasonable time" for attainment of such secondary standard . . . shall be not more than 3 years unless the State shows that good cause exists for postponing application of such control technology."

This language requires, in effect, that an implementation plan for the Secondary sulfur oxide Standards in a given region must provide for the attainment of those Standards in three years and then describes the conditions under which exemptions may be granted:

> –"Reasonably available control technology" is not available; or
>
> –"good cause" can be shown why reasonably available control technology should not be applied, until some later time.

The length of the extension beyond three years depends

> "...on the degree of emission reduction needed for attainment of such secondary standard and on the social, economic, and technological problems involved in carrying out a control strategy adequate for attainment and maintenance of such secondary standard." (section 420.13(b)(2))

There will inevitably be strong pressure to postpone compliance time for the Secondary sulfur oxide Standards. These are the only Secondary Standards, other than those for particulates, that are stricter than the Primary Standards, and according to some industries the cost of controlling sulfur oxide emissions jumps substantially between Primary and Secondary Standards.[29]

[29] This is particularly true, at least ostensibly, of the copper smelting industry, and some see this extension, which is a gaping hole in comparison to the other exemptions allowed by the Act, as a response to pressure from that quarter. Just what the actual costs to the copper industry will be is hotly disputed. EPA pegs the figure at under $100 million for the entire industry; one copper company says more than one billion and threatens dire foreign trade consequences. A manufacturer of sulfur dioxide control technology, Chemical Technology Corporation of El Monte, California, claims that EPA is correct, and the copper companies wrong.



Considerable vigilance will be necessary, since the conditions imposed on exemptions by the Guidelines are extremely mild. "Reasonably available control technology" is defined as devices or procedures that will attain the emission limitations suggested in Appendix B, but with the provision that states are encouraged to consider "the social and economic impact of such emissions limitations." (section 420.01(o)(1)) This leaves wide latitude for postponement, since a practical, physically available, but expensive, device permitting attainment of a Secondary Standard in three years could be deemed "not reasonably available" because its "economic impact" could be too great.

No matter how presented, such an argument ultimately means that a company does not want to pay what it costs to clean up by the required time. Work out the numbers. Ask at what time after three years the device will become "reasonably available". That is, over how many extra years does the company want to spread the cost before it is willing to say it can afford the device? Assess the argument carefully; in some cases it is justified, particularly for smaller companies that are reasonably efficient but might be forced into drastic cutbacks if forced into immediate use of highly expensive devices. In some cases, much less expensive but equally effective devices may become available after a short wait and might justify delays. But don't sit still for economic impact arguments from big companies that can afford to clean up no matter what they say, or from marginal operations that are profitable only because they pay no operating costs for the scarce clean air they pollute.

"Good cause" could mean anything. Don't give up without a fight.

To add insult to injury, the criteria the Guidelines use for determining the length of a postponement are the same "economic, social and technical considerations" that can determine the need for the extension in the first place. Analyze cost arguments carefully. Reduce them to the essentials of who is not willing to pay how much, and make these public. You may not be able to prevent a postponement, but you should try to keep it within specific limits. Press also for a condition like that set for two-year extensions of primary Standard compliance time – application of the best possible interim control measures.

## APPENDIX A

## NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS

| Pollutant | Primary Standard | Secondary Standard |
|---|---|---|
| *Sulfur Oxides:* | (a) 80 micrograms per cubic meter (0.03 p.p.m.) – annual arithmetic mean. | (a) 60 micrograms per cubic meter (0.02 p.p.m.) – annual arithmetic mean. |
| | (b) 365 micrograms per cubic meter (0.14 p.p.m.) – maximum 24 hr. concentration not to be exceeded more than once per year. | (b) 260 micrograms per cubic meter (0.1 p.p.m.) – maximum 24 hr. concentration not to be exceeded more than once per year, as a guide to be used in assessing implementation plans to achieve the annual standard. |
| | | (c) 1,300 micrograms per cubic meter (0.5 p.p.m.) – maximum 3 hour concentration not to be exceeded more than once a year. |
| *Particulate Matter:* | (a) 75 micrograms per cubic meter – annual geometric mean. | (a) 60 micrograms per cubic meter – annual geometric mean, as a guide to be used in assessing implementation plans to achieve 24-hour standard. |
| | (b) 260 micrograms per cubic meter – maximum 24 hr. concentration not be exceeded more than once a year. | (b) 180 micrograms per cubic meter – maximum 24-hr concentration not to be exceeded more than once a year. |
| *Carbon Monoxide:* | (a) 10 milligrams per cubic meter (9 p.p.m.) – maximum 8 hr. concentration not to be exceeded once a year. | Same as Primary Standard. |
| | (b) 40 milligrams per cubic meter (35 p.p.m.) – maximum 1-hr. concentration not to be exceeded more than once a year. | |
| *Photochemical Oxidants:* | 160 micrograms per cubic meter (0.08 p.p.m.) – maximum 1 hr. concentration not to be exceeded more than once per year. | Same as Primary Standard. |
| *Hydrocarbons:* | 160 micrograms per cubic meter (0.24 p.p.m.) – maximum 3 hr. concentration (6 to 9 a.m.) not to be exceeded more than once per year. | Same as Primary Standard. |
| *Nitrogen Dioxide:* | 100 micrograms per cubic meter (0.05 p.p.m.) – annual arithmetic mean. | Same as Primary Standard. |

**Note:** All measurements of air quality are corrected to a reference temperature of 25°C. and to a reference pressure of 760 millimeters of mercury (1,013.2 millibars).

## APPENDIX B

1.0 *Definitions.*

1.1 "Air pollutant" shall mean dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof.

1.2 "Air pollution" shall mean the presence in the outdoor atmosphere of one or more air pollutants in such quantities and duration as is or tends to be injurious to human health or welfare, animal or plant life, or property or to interfere with the enjoyment of life or property.

1.3 "Director" shall mean the Director of the State Air Pollution Control Agency or local air pollution control agency.

1.4 "Emission" shall mean the act of releasing or discharging gases containing air pollutants into the ambient air from any stack or source.

1.5 "Existing source" shall mean any stationary source other than a new source.

1.6 "Modification" shall mean any physical change to or change in the method of operation of a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

1.7 "New source" shall mean any stationary source, the construction or modification of which is commenced after publication of any proposed regulations which will be applcable to such source. Any equipment, the use of which will result in emission of air pollutants, which is moved to another premise involving a change of address, or purchased and to be operated by a new owner, or when a new lessee desires to operate such equipment after the effective date of these regulations shall be considered a new source.

1.8 "Opacity" shall mean a state which renders material partially or wholly impervious to rays of light and causes obstruction of an observer's view.

1.9 "Open burning" shall mean the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the ambient air without passing through an adequate stack or flare.

1.10 "Particulate matter" shall mean any material, except water in uncombined form, that is or has been airborne and exists as a liquid or a solid at standard conditions.

1.11 "Person" shall mean any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this State, any other State or political subdivision or agency thereof or any legal successor, representative, agent, or agency of the foregoing.

1.12 "Ringelmann chart" shall mean the chart published and described in the U.S. Bureau of Mines Information Circular 8333.

1.13 "Source" shall mean any property, real or personal, which emits or may emit any air pollutant.

1.14 "Stationary Source" shall mean any building, structure, facility or installation which emits or may emit any air pollutant, and which does not, in its day to day operation, move.

2.0 *Permits.*

2.1 *Application For Permits to Construct.*

2.1.1 No person shall construct or install, or cause the construction or installation of any new source or any new facility intended to control the emission of air pollutants from any existing source without applying for and obtaining a construction permit from the Director.

2.1.2 Separate applications shall be required for each new source to be constructed and each facility to be installed, and shall be made by the owner or operator of the source on forms furnished by the Director.

2.1.3 Each application shall be signed by the applicant, which signature shall constitute an agreement that the applicant will assume responsibility for the construction of such source or facility in accordance with applicable rules and regulations.

2.1.4 Each application shall be accompanied by siting information; descriptions of the equipment and processes involved; the nature, source and quantity of uncontrolled and controlled emissions; the type, size and efficiency of control facilities; and such other information as the Director may require.

2.2 *Standards for Granting Construction Permits.* No construction permit shall be granted until the applicant shows to the Director's satisfaction that:

(a) The new source or control facility for which the permit is requested will operate in accordance with applicable rules and regulations.

(b) Such new source or control facility will operate without preventing or interfering with attainment or maintenance of any applicable ambient air quality standard.

(c) Such new source is equipped with instrumentation to monitor and record emission data or other information about the operation of the source which satisfies the requirements of § 3.0.

(d) Such control facility constitutes, and such new source incorporates, the best available control technology.



2.3 *Action on Applications for Construction Permits.*

2.3.1 The Director shall, within 60 days of the receipt of an application, notify the applicant in writing of his approval, conditional approval or denial of the application.

2.3.2 The Director shall briefly set forth in any notice of approval, conditional approval, or denial, the reasons for his decision.

2.3.3 The Director may impose any reasonable conditions upon an approval, including conditions requiring new sources to be provided with:

(a) Sampling ports of a size, number and location as the Director may require, and

(b) Safe access to each port.

2.4 *Cancellation of Construction Permits.*

2.4.1 The Director may cancel a construction permit if

(a) The construction or installation the permit approves is not begun within one year from the date of issuance; or,

(b) During construction or installation, work is suspended for one year.

2.4.2 The Director shall cancel a construction permit if

(a) He determines that any one of the Standards under § 2.2 or conditions under § 2.3.3 have been or will be violated; or

(b) Prior to construction or installation, more effective control measures become available.

2.5 *Application for Permits to Operate.*

2.5.1 No person shall operate or cause the operation of a source without applying for and obtaining a permit to operate from the Director in accordance with the requirements of this section.

2.5.2 Application for a permit to operate a new source shall be made at least 90 days prior to start up of operation.

2.5.3 Application for a permit to operate an existing source, as required by § 2.6.1, shall be made as soon after the effective date of any applicable rules and regulations as such source is in compliance with such rules and regulations, but in no case later than three months after such effective date.

2.5.4 Application for a conditional permit to operate an existing source, as required by § 2.6.2, shall be made at the time of submittal to the Director of a control plan and schedule of compliance under § 7.0.

2.5.5 Separate applications shall be filed for each source, and shall be made by the owner or operator of the source on forms furnished by the Director.

2.5.6 Each application shall be signed by the applicant, which signature shall constitute an agreement that the applicant will assume responsibility for operating such source in accordance with applicable rules and regulations.

2.5.7 Each application shall be accompanied by siting information; descriptions of the equipment and processes involved; the nature, source and quantity of uncontrolled and controlled emissions; the type, size and efficiency of control facilities; and such other information as the Director may require.

2.6 *Standards for Granting Permits to Operate.*

2.6.1 The Director shall grant a permit to operate a source if he determines that

(a) The source is in compliance with applicable rules and regulations.

(b) The source operates without preventing or interfering with the attainment or maintenance of any applicable National Air Quality Standard.

(c) The source is equipped with instrumentation to monitor and record emission data or other information about the operation of the source which satisfies the requirements of § 3.4.

(d) Any new source for which the permit is requested, or any control facility installed in an existing source for which the permit is requested, meets the standards and conditions imposed in the applicable construction permit.

(e) An emergency abatement plan for the source, as required by 42 CFR Part 420, has been federally approved or will be submitted for federal approval as required by 42 CFR § 420.16 (f).

(f) Performance tests, conducted after the application was made, at the applicant's expense, in accordance with methods prescribed by the Director and with, if requested, his observation and participation, demonstrate that the source is in compliance with applicable rules and regulations.

2.6.2 The Director shall grant a conditional permit to operate to any existing source that has submitted and had approved by the Director a control plan and schedule of compliance in conformance with the require-



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ments of §7.0.

2.7 *Action on Applications for Permits to Operate.*

2.7.1 The Director shall act within 60 days after start up of operations on an application for a permit to operate a new source, or within 60 days of receipt of an application for a permit (other than a conditional permit) to operate an existing source, and shall notify the applicant in writing of his approval, conditional approval or denial of the application.

2.7.2 The Director shall set forth in writing his reasons for approval, conditional approval, or denial of the permit.

2.7.3 The Director may impose any reasonable conditions on any permit to operate.

2.7.4 The Director shall act on applications for conditional permits to operate existing sources in the order of the sources' total yearly emissions, beginning with the largest emitter first.

2.8 *Suspension or Revocation of Permit to Operate.*

2.8.1 The Director may suspend or revoke a permit to operate if he determines that any of the conditions or standards of §2.6 or §2.7.3 have been violated.

2.8.2 Suspension or revocation of a permit to operate shall be final 10 days after service of notice on the holder of the permit.

2.8.3 A permit to operate which has been revoked shall be surrendered forthwith to the Director.

2.9 *Transfer of Permit to Operate:* The holder of a permit to operate may not transfer it without the prior written approval of the Director.

2.10 *Revisions of Permits.* Any permit issued by the Director shall be subject to revision in response to changes in applicable rules and regulations or other factors affecting the compliance of the source or control facility with the standards or conditions of the original permit.

2.11 *Exemptions.* Permits for construction or operation shall not be required for:

(a) Air pollutant detectors or recorders, combustion controllers or shutoffs;

(b) Air conditioning or ventilating systems not designed to remove air pollutants generated by equipment;

(c) Fuel burning equipment for indirect heating and for heating and reheating furnaces using gas exclusively with a capacity of less than 50 million Btu per hour input;

(d) Other fuel burning equipment for indirect heating with a capacity of less than one million Btu per hour input;

(e) Mobile internal combustion and jet engines, marine installations, and locomotives; and,

(f) Laboratory equipment used exclusively for chemical or physical analysis.

2.12 Possession of a permit to construct or operate shall not relieve any person of the responsibility to comply with applicable emission limitations or other regulations or other provisions of State law.

3.0 *Source Monitoring, Record Keeping and Reporting.*

3.1 The Director shall require the owner or operator of all stationary sources to establish and maintain records, make reports, install, use, and maintain monitoring equipment and methods, sample emissions and provide other information as required under §§3.4 and 3.6.

3.2 Records and reports shall be made on forms specified by the Director and shall be signed by the corporate President, or Vice President reporting directly to the President, or highest ranking corporate officer with offices located in the State; or by an equivalently responsible officer in the case of organizations other than corporations. Such signature shall constitute personal affirmation that the records or reports are true and complete, complying fully with applicable State requirements, and shall subject the responsible official to liability under §§10.1 and 10.2 of these rules for false or misleading statements.

3.3 Records required to be made of any aspect of the operation of a source shall be made and reported in the same units as any rules and regulations applicable to such aspect.

3.4 A photoelectric or other type smoke detector and recorder shall be installed, operated and maintained. Instruments for the continuous monitoring and recording of emissions of sulfur dioxide and nitrogen oxides shall be installed, operated and maintained. Data from such devices shall be kept current in a form allowing easy inspection, and shall be retained for three years.

3.4.1 Sulfur dioxide and oxides of nitrogen emission data shall be averaged every hour. Hourly averages shall be summarized every 24-hour period, and summaries and hourly averages shall be submitted to the Director every four months.

3.4.2 Particulate matter emissions shall be sampled and hourly data compiled. Hourly data shall be summarized every 24-hour period, and summaries and hourly averages submitted to the Director every four months.

3.4.3 Visible emissions shall be measured continuously and records kept indicating average hourly opacity and total minutes per hour in which stack discharge effluent exceeds 20 percent opacity. Hourly data shall be summarized monthly and summaries and hourly data submitted to the Director every four months.



3.4.4 The sulfur content of fuels, as burned, except natural gas, shall be determined in accordance with current recognized ASTM procedures. Daily and monthly averages shall be submitted to the Director every four months.

3.5 Within 10 days of receipt of a written request from any interested party, the Director shall acquire and make public the recorded hourly emission or other monitoring data from any source for a period of four or fewer days.

3.6 The Administrator may require the submission of any information other than records or reports of monitoring data as he deems fit.

3.7 In the case of shutdown of any monitoring device or method, intent to shut down such device or method shall be reported to the Director at least 24 hours in advance.

3.8 The Director shall be notified immediately of any breakdown or failure to operate of any monitoring device or method.

3.9 The Administrator or his authorized representative, upon presentation of his credentials,

(a) shall have right of entry to, upon, or through any premises in which an emission source is located or in which any records required to be maintained under this regulation are located, and

(b) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method and sample any emissions which the owner or operator of such source is required under this regulation to sample.

3.10 Upon request of the Director, the person responsible for the source to be tested shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices, as may be necessary for proper determination of the emissions of air pollutants.

4.0 *Public Availability of Information.*

4.1 Any record, reports or other information obtained by the Director shall be made available to the public, except that upon a showing satisfactory to the Director by any person that such records, reports or other information, or particular part thereof (other than emission data), if made public, would divulge methods or processes entitled to protection as trade secrets of such person, the Director shall consider such record, report or information, or particular part thereof confidential, except that such record, report, or information may be disclosed to other officers, employees, or authorized representatives of the State concerned with carrying out this Act or when relevant in any proceeding under this regulation.

4.2 Any emission data made public by the Director shall be presented in such a manner as to show the relationship between measured amounts of emissions and the amounts of such emissions allowable under applicable emission limitations and compliance schedules, or other measures.

5.0 *Malfunction of Equipment; Reporting.*

5.1 In the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Director at least twenty-four hours prior to the planned shutdown. Such prior notice shall include, but is not limited to the following:

(a) Identification of the specific facility to be taken out of service as well as its location and permit number.

(b) The expected length of time that the air pollution control equipment will be out of service.

(c) The nature and quantity of emissions of air contaminants to occur during the shutdown period.

(d) Measures such as the use of off-shift labor and equipment will be taken to minimize the length of the shutdown period.

(e) The reasons that it would be impossible or impractical to shut down the source operation during the maintenance period.

5.2 In the event that any emission source, air pollution control equipment, or related facility breaks down in such a manner as to cause the emission of air contaminants in violation of this article, the person responsible for such equipment shall immediately notify the Director of such failure or breakdown and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Director shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation.

6.0 *Prohibition of Air Pollution.* No person shall cause or permit air pollution, as defined in §1.2 of this

part, in excess of applicable emission standards, except pursuant to an approved schedule of compliance.

7.0 *Compliance Schedules.*

7.1 Except as otherwise specified, compliance with the provisions of these regulations shall be according to the following schedule:

(a) All new sources shall comply as of the start up of operation.

(b) All existing sources shall comply as soon as possible after the effective date of applicable rules and regulations, but in no case later than six months after such effective date, unless the owner or person responsible for the operation of the source shall have submitted to the Director a control plan and schedule for achieving compliance, such plan and schedule to contain a date on or before which compliance will be attained and such other information as the Director shall require.

7.2 The Director shall approve such a plan and schedule if he determines that:

(a) The source can not comply within six months, even using the best available control technology, or cannot install such technology within six months.

(b) Adherence to such plan and schedule will not jeopardize the attainment or maintenance of a National Standard by the required time.

(c) The plan and schedule provide for the earliest possible compliance by the source.

(d) The compliance date is no longer than three years after the effective date of applicable rules and regulations.

(e) The plan and schedule provide for interim control measures to be taken before the compliance date.

7.3 If the Director rejects a plan and schedule, the source must comply within six months, unless the Director approves a different plan and schedule.

7.4 The Director shall require persons operating under an approved plan and schedule to submit subsequent periodic reports on progress in achieving compliance.

8.0 *Enforcement.*

8.1 *Operating or Construction without a Permit.* No person shall:

(1) operate or cause the operation of a source without an operating or conditional operating permit; or,

(2) begin construction or cause the construction of a source without a construction permit; or,

(3) fail to submit or cause the failure to submit all required data to support its application for such permit.

8.2 *Failure to Submit or Carry Out an Emergency Plan.* No person shall:

(1) fail to submit or cause the failure to submit an emergency plan of abatement;

(2) fail to implement or cause the failure to implement such plan during any stage of an emergency episode declared by the Director.

8.3 *Operating a Source Without Pollution Control Devices.* No person shall operate or cause the operation of a source without using installed emission control devices, processes, or fuels, except in compliance with §5 of these regulations.

8.4 *Violation of an Applicable Emission Limitation or Schedule of Compliance.* No person shall violate or cause the violation of an applicable emission limitation, schedule of compliance, or other provision of the State implementation plan.

9.0 *Civil Liability.*

9.1 Whenever the Director finds, based on any information, that there is probable cause to believe a source is in violation of §§ 6.9, 8.1, 8.2, 8.3, or 8.4 of these regulations, he shall:

(1) issue an abatement order, which shall take effect upon ten days' notice to the affected source owner; or,

(2) file a civil suit for an injunction in the_____Court; and/or,

(3) file a civil suit for a fine in the_____Court.

9.2 Suits for such injunction or fine shall take precedence over all other cases on the docket of the_____ Court.

9.3 *Fines.* [The following provisions are written to suggest possible alternative fine structures. A group might want to support several or only one.]

9.3.1 Civil fines for violation of an applicable emission limitation or fuel content control, or for failure to obtain an operating or conditional operating permit, or causing air pollution under §6.0 shall be assessed in proportion to:



(a) the total quantity of pollutant(s) emitted in excess of applicable emission limitations and/or schedule of compliance during the period of violation; or,

(b) a professionally reasonable estimate of the total excess quantity of emissions based upon standard engineering process-weight calculations during the period of violation; or,

(c) the quantity of energy produced, in terms of Btu per unit of fuel burned, times the quantity of fuel burned; or,

(d) with respect to violations of applicable fuel sulfur content limitations, the excess quantity of sulfur contained in the fuel burned by the source over the period of violation.

9.3.2 In the absence of any showing by the State under §9.3.1 of the excess emissions, or of the excess sulfur content of fuel burned by the source, the fine shall be $500 per day of violation; provided, that the source owner may show, in mitigation, using any of the methods described in §9.3.1, that the excess emissions or excess sulfur in fuel burned by the source were so minimal that a lesser fine would be in the interest of justice.

9.3.3 Civil fines for operating a source without pollution control devices, for failure to implement an emergency plan of abatement, or constructing a source without a construction permit shall be $10,000 per day of violation.

9.3.4 Civil fines for failure to submit an emergency plan of abatement or for violating any provision of an implementation plan not covered under §§9.3.1, 9.3.2, 9.3.3, shall be $500 per day of violation.

10.0 *Criminal Liability.*

10.1 Any corporate officer, or other responsible official,

(1) who signs a report to the (State) Air Pollution Control Agency, emission monitoring record, or other record related to compliance with an applicable emission controls, compliance schedule or pollution tax which contains false or misleading information or statements; or

(2) who alters, falsifies, or causes the alteration or falsification of any such report or record;

shall be subject to a criminal fine of not more than $10,000, and imprisonment for not less than 6 months nor more than 2 years.

10.2 Such fines shall not be reimbursed by any corporation or source owner, subject to the same criminal penalties.

11.0 *Citizen Enforcement.*

11.1 Any citizen may obtain an injunction in the_____Court against any person (including business associations and other organizations) who violates an applicable emission limitation or schedule of compliance; fails to pay an applicable pollution tax; or violates any other provision of the State implementation plan. Suit may be commenced upon 30 days' notice to the affected party and the Director.

11.2 Any citizen may obtain an injunction in the_____Court against the State Pollution Control Agency for violating any provision of the State implementation plan. Suit may be commenced upon 30 days' notice to the Director.

11.3 Such cases shall receive priority over all other cases on the civil docket of the_____Court.

11.4 *Costs and Fees.* The_____Court, in issuing any final order in an action brought pursuant to §9, shall award costs of litigation (including reasonable attorney and expert witness fees) to citizens or citizen groups in cases where they successfully maintain an action pursuant to §9. The Court may award costs of litigation (including reasonable attorney and expert witness fees) to any party, whenever the court determines such award is appropriate.

11.5 Any citizen who supplies information on which a successful suit for a civil fine is brought under §9 of these regulations shall receive _____percent of the amount of the fine.

[Sections 8-11 suggest provisions we feel would implement a good enforcement system. Where they are not presently authorized by State law, they could not, of course, be adopted by your State agency as part of its implementation plan.]

## APPENDIX C
## FIRMS CONTRACTED TO WORK WITH STATES ON IMPLEMENTATION PLANS

| Firm: | Working on *Emissions Inventory* for: | Working on *Plan Development* for: |
|---|---|---|
| Battelle Memorial Inst.<br>505 King Avenue<br>Columbus, Ohio 43001<br>(614) 295-8054<br>Contact: Dr. Phillip Sticksel | Montana, Indiana | Indiana, Arizona |
| T.R.W. Systems<br>7600 Colshire<br>McLean, Virginia 22101<br>(703) 893-2000 ext: 2307<br>Contact: Dr. Thomas Wright | Alaska, South Carolina, Alabama, Nevada | Alaska, Alabama, South Carolina |
| Pollution Research & Control Corporation<br>616 East Colorado Street<br>Glendale, Califomia 91205<br>(213) 240-0515<br>Contact: Dr. Irwin Kauper | New Mexico, Idaho | Hawaii |
| Geomet, Inc.<br>326 East Montgomery Avenue<br>Rockville, Maryland 20850<br>(310) 762-5820<br>Contact: Billy Weaver | Puerto Rico, Oklahoma | Puerto Rico, Oklahoma |
| GCA Corporation<br>Burlington Road<br>Bedford, Massachusetts 01730<br>(617) 275-9000<br>Contact: Raymond Fox | South Dakota, Wyoming, North Dakota | Idaho, Oregon, Washington |
| IBM Corporation<br>18100 Fredrick Pike<br>Gaithersburg, Maryland 20760<br>(310) 840-4714<br>Contact: Thomas Lewis | Nebraska, Missouri, New Jersey | Nebraska, Louisiana, New Jersey, Nevada, Wisconsin, Virginia, New Mexico |
| Pedco-Environmentalists, Inc.<br>Suite #8<br>Atkinson Square<br>Cincinnati, Ohio 45246<br>(513) 771-4330<br>Contact: George Jutze | Kansas, Ohio | Kansas, Mississippi |
| Walden Research Corporation<br>359 Allston Street<br>Cambridge, Massachusetts<br>(617) 868-3940<br>Contact: Paul Morganstern | New Hampshire, Massachusetts | Rhode Island, Maine |



| | | |
|---|---|---|
| Research Corporation of New England<br>210 Washington Street<br>Hartford, Connecticut<br>(203) 527-4101<br>Contact: Dr. Robert Hittler | Vermont, Minnesota | Vermont, New Hampshire, Minnesota |
| Radian Corporation<br>8409 Research Boulevard<br>Austin, Texas 75758<br>(512) 454-9535<br>Contact: Dr. Scott Lagroan | Louisiana | Arkansas |

## APPENDIX D
## EPA REGIONAL OFFICES

*Region I*
(New England States)

Room 2303
John F. Kennedy Federal Building
Boston, Massachusetts
(617) 223-7210
Director: John McGlennon

*Region II*
(New York, New Jersey, Puerto Rico)

Room 847
26 Federal Plaza
New York, New York 10007
(212) 264-2525
Director: Gerald M. Hansler

*Region III*
(Pennsylvania, Maryland, Delaware, West Virginia, Virginia)

P.O. Box 12900
Philadelphia, Pennsylvania 19108
(215) 597-4506
Director: Not Appointed Yet

*Region IV*
(Kentucky, Tennessee, N. Carolina, S. Carolina, Georgia, Mississippi, Alabama, Florida)

Suite 300
1421 Peachtree Street N.E.
Atlanta, Alabama 30309
(404) 526-5727
Director: John Ravan

*Region V*
(Wisconsin, Michigan, Illinois, Indiana, Ohio, Missesota)

33 E. Congress Parkway
Chicago, Illinois 60605
(312) 353-5350
Director: Francis T. Mayo

*Region VI*
(Louisiana, Arkansas, Oklahoma, Texas, New Mexico)
1114 Commerce Street
Dallas, Texas 75202
(214) 749-2827
Director: Not Appointed Yet

*Region VII*
(Kansas, Missouri, Nebraska, Iowa)
Room 702
911 Walnut Street
Kansas City, Missouri 64106
Director: Jerome Svore

*Region VIII*
(Montana, N. Dakota, S. Dakota, Wyoming, Colorado, Utah)
Lincoln Towers Building
1860 Lincoln Street
Denver, Colorado 80203
Director: John Green

*Region IX*
(Arizona, Nevada, California, Hawaii)
760 Market Street
San Francisco, California 94102
(415) 556-5876
Director: Paul DeFalco

*Region X*
(Alaska, Washington, Oregon, Idaho)
Room 501 Pittock Block
921 S.W. Washington Street
Portland, Oregon 97205
(503) 226-3914
Director: James L. Agee



## APPENDIX E
## BIBLIOGRAPHY

Government Publications:


1. The Clean Air Act (42 U.S.C. 1857 et. seq.)

2. EPA, "The National Primary and Secondary Ambient Air Quality Standards" 42 Code of Federal Regulations, Part 410, 36 Federal Register 8186 (April 30, 1971)

3. EPA, "Requirements For Preparation, Adoption, And Submittal Of Implementation Plans" (Federal Guidelines) 42 Code of Federal Regulations, Part 420, 36 Federal Register 15486 (August 14, 1971)

   [The above documents can be ordered through:
   Environmental Protection Agency
   Office of Public Affairs
   Publications Unit
   5600 Fishers Lane, Room 17B–31
   Rockville, Maryland 20852
   (301) 443-4050
   They are available free of charge. In quantities of over 10, however, there is a waiting period of about two weeks.]

4. Senate Committee on Public Works, "National Air Quality Standards Act of 1970", *Sen. Rpt.* No. 91-1196, 91st Cong., 2nd Sess. (1970)
   [The above document can be ordered from the Committee itself:
   Committee on Public Works
   4202 New Senate Office Building
   Washington, D.C. 20510
   It is free of charge, but available in limited amounts only. It can also be ordered from the Government Printing Office.]

5. Air Quality Criteria Documents:

   - Carbon Monoxide, GPO No. HE 20.1309:62
   - Photochemical Oxidants, GPO No. HE 20.1309:63
   - Hydrocarbons, GPO No. HE 20.1309:64
   - Nitrogen Oxides, GPO No. EP 4. 9:84
   - Particulate Material, GPO No. FS 2.93/3:49
   - Sulfur Oxides, GPO No. FS 2.93/3.50

6. Control Technique Documents:

   - Particulate Air Pollutants, GPO No. FS 2.93/3:51
   - Sulfur Oxides GPO No. FS 2.93/3.52
   - Carbon Monoxide Emissions From Stationary Sources, GPO No. HE 20.1309:65
   - $CO, NO_x$, And Hydrocarbons Emissions From Mobile Sources, GPO No. HE 20.1309:66
   - Nitrogen Oxide Emissions From Stationary Sources, GPO No. HE 20.1309:67
   - Hydrocarbon And Organic Solvent Emissions From Stationary Sources, GPO No. HE 20.1309:68

7. Report of the Administrator of the Environmental Protection Agency, "The Economics of Clean Air," *Sen. Rpt.* No. 92-6, 92nd Cong., 1st Sess. (1971)

[These documents are available from the Government Printing Office:
Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

There is a $1.00 charge for each copy requested.]

8. *Guide for Air Pollution Episode Avoidance,* AP 76.

9. *Guide for Control of Air Pollution Episodes in Medium-Sized Urban Areas,* AP 77.

10. *Guidelines: Air Quality Surveillance Networks,* AP 98.

[The AP series of reports is issued by the Office of Air Programs, Environmental Protection Agency, to report the results of scientific and engineering studies, and information of general interest in the field of air pollution. Information reported in this series includes coverage of Air Program intramural activities and of cooperative studies conducted with State and local agencies, research institutes, and industrial organizations. Copies of AP reports are available free of charge to federal employees, current contractors and grantees, and non-profit organizations as supplies permit, from the Office of Technical Information and Publications, Office of Air Programs, Environmental Protection Agency, P.O. Box 12055, Research Triangle Park, North Carolina 27709. Others may purchase copies from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.]

Other Publications:

1. *Air Pollution Primer,* National Tuberculosis and Respiratory Disease Association, 1969 – A clear, concise introduction to the problem of air pollution.
[Order from your local T B & R D Association. Copies are free of charge.]

2. *Your Right to Clean Air,* Conservation Foundation (August, 1970). This edition includes valuable sections on organizing a citizen clean air coalition and holding meetings and workshops, which are not in the new edition.

3. *Your Right to Clean Air,* Conservation Foundation, (August, 1971). [A limited number of these pamphlets are available from the Conservation Foundation, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036. Remember to specify which editions you want.]

4. *Air Pollution Workbook,* Scientists' Institute for Public Information, (1970). Lucid, short explanations of the atmosphere, characteristics of specific pollutants and biological effects of pollution.
[Order from: Scientists' Institute for Public Information, 30 East 68th Street, New York, New York 10021. Available at $1.00 per copy.]

5. *State Air Pollution Control Laws,* Stanley Degler, BNA's Environment Management Series, 1970 – Summaries of State laws, the full text of the California law, and a model law put out by the Council of State Governments.



## APPENDIX F
## SAMPLE LETTER REQUESTING ASSESSMENT OF STATE LEGAL AUTHORITY TO CREATE AND ENFORCE IMPLEMENTATION PLAN

Governor _____
State Capitol
_____

Dear Governor _____:

On February 16, 1971, U.S. Environmental Protection Agency Administrator William D. Ruckelshaus advised all Governors by letter of the State's important new responsibilities under the federal Clean Air Amendments of 1970.

One action he described as "essential" was "to make a prompt determination as to whether new State legislation will be needed to enable your State to formulate and carry out implementation plans meeting the requirements of the Act."

It is important that a review of existing legislation be undertaken soon, since plans must be submitted by late January, 1972, and since an acceptable plan must demonstrate that adequate State authority exists at the time it is submitted. Under the Act, if a State submits an unacceptable plan, the Administrator of the federal EPA must implement his own. It is thus of crucial importance that State officials have and exercise the authority listed by Mr. Ruckelshaus in his letter.

_____ *(Name of your organization)* _____ is concerned that federal air quality legislation be energetically enforced. We would appreciate receiving a copy of your evaluation of _____ *(your State's)* _____ statutory authority in response to Mr. Ruckelshaus' letter, and an indication of what action is being taken to correct any inadequacies.

Thank you for your cooperation.

Copies to:
State Attorney General

Director, State Air Pollution
Control Agency

## APPENDIX G
## CHECKLIST OF REQUIRED STATE LEGAL AUTHORITY

1. Authority to adopt emission standards and limitations and any other measures necessary (e.g., limitations on the sulfur content of fuels) for attainment and maintenance of National Ambient Air Quality Standards.

2. Authority to enforce without delay applicable laws, regulations, and standards, with appropriate sanctions including authority to seek injunctive relief.

3. Authority to abate pollutant emissions on an emergency basis to prevent substantial endangerment to public health, i.e., authority comparable to that available to the Environmental Protection Agency under Section 303 of the Clean Air Act, as amended.

4. Authority to prevent construction, modification, or operation of any stationary source at any location where emissions from such source will prevent the attainment or maintenance of a National Standard.

5. Authority to obtain information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, including authority to require record-keeping and to make inspections and conduct tests of air pollution sources.

6. Authority to require owners or operators of stationary sources to install, maintain, and use emission monitoring devices and to make periodic reports to the State on the nature and amounts of emissions from such stationary sources; also, authority to make such data available to the public as reported and as correlated with any applicable emission standards.

An implementation plan approvable under the Clean Air Act, as amended, must show these authorities are immediately available to the State agency or agencies directly responsible for developing and carrying out such plans. The authorities described may be provided by specific or general legislation, and must be applicable to the entire State.

[This list is adapted from one sent with a letter from EPA Administrator Ruckelshaus to all the State Governors in early 1971. We have revised the original to account for changes in the final Guidelines. Authority was originally required to establish permit systems, to inspect auto emissions and to institute land use and transportation controls. The permit requirement was cut entirely, and states must now submit timetables for acquiring auto inspection and land use and transportation control authority.]



## APPENDIX H
## THE NATIONAL ENVIRONMENTAL POLICY ACT

### PURPOSE

Sec. 2. The purposes of this Act are: To declare a national policy which will encourage productive and and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

### TITLE I
### DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

Sec. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may–

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the presevation and enhancement of the environment.

Sec. 102. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall–

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment:
(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;
(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on–

(i) the environmental impact of the proposed action,
(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
(iii) alternatives to the proposed action,
(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(F) make available to States, counties, minicipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established by title II of this Act.

Sec. 103. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

Sec. 104. Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Sec. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

## TITLE II
## COUNCIL ON ENVIRONMENTAL QUALITY

Sec. 201. The President shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest dryland, wetland, range, urban, suburban, and rural environment; (2) current and forseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation, (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.



Sec. 202. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

Sec. 203. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultats as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of this title 5, United States Code (but without regard to the last sentence thereof).

Sec. 204. It shall be the duty and function of the Council–

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201;

(2) to gather timely and authorative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

Sec. 205. In exercising its powers, functions, and duties under this Act, the Council shall–

(1) consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order numbered 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments, and other groups, as it deems advisable; and

(2) utilize, to the fullest extent possible, the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

Sec. 206. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

Sec. 207. There are authorized to be appropriated to carry out the provisions of this Act not to exceed $300,000 for fiscal year 1970, $700,000 for fiscal year 1971, and $1,000,000 for each fiscal year thereafter.



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ATTACHMENT 2

# TRANSPORTATION CONTROLS

# FOR CLEAN AIR:

## A Manual for Citizen Participation In State Implementation Plan Proceedings Under The Clean Air Amendments of 1970

published by

Project on Clean Air
Natural Resources Defense Council, Inc.
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## I. USING THIS MANUAL

On February 15, 1973, 17 States will submit to the U.S. Environmental Protection Agency (EPA) plans for controlling air pollution from motor vehicles in 27 major metropolitan areas across the country.[1] Prior to submitting their plans (known as transportation control strategies) to EPA the States must hold public hearings. This manual is designed to enable you to participate in these hearings and in the review of the plans which EPA will undertake after February 15.

The manual is the second handbook published by the Natural Resources Defense Council (NRDC) on State Air Quality Implementation Plans. Those of you familiar with *Action For Clean Air* (Sept. 1971) will note that small portions of that manual are repeated here in order to make this handbook as self-contained as possible.

Part II of this Manual discusses the most pertinent requirements of the Clean Air Act. Part III relates EPA's actions to date regarding State Implementation Plans. Part IV summarizes the alternative transportation control measures which can be employed to reduce motor vehicle pollution. Part V discusses the impact of the automobile on the urban environment. Part VI describes the general legal requirements for the form and content of transportation control portions of plans. Part VII discusses alternative transportation control measures in detail. Part VIII suggests the steps citizens can take to participate in the development of transportation control strategies. Part IX includes a list of National Ambient Air Quality Standards, a list of the cities where transportation controls are necessary, a timetable of further necessary action, a list of EPA Regional Transportation Control Representatives, and a bibliography.

Best of luck on your efforts for clean air!

David Hawkins (D.C.)
Cullen Phillips (N.Y.)

## II. INTRODUCTION TO THE CLEAN AIR ACT

The transportation control strategies which must be submitted to EPA on February 15 are only one component of overall *Implementation Plans* required by the Clean Air Act to achieve national ambient air quality standards. The following summary of the Act's provisions regarding Implementation Plans will place the States' transportation strategies in the proper context.

### A. *Air Quality Standards (Sections 108 and 109)*

The Clean Air Act requires EPA to set two types of *National Ambient Air Quality Standards*. *Primary Standards* were to be set at levels which are adequate to protect human health. These Standards must be achieved within three years of the approval of a plan implementing them (sometime in 1975 for most States). The *Secondary Standards* were to be set at levels to protect human "welfare" values. Congress intended these Standards to safeguard *all* values other than health, including visibility, plant and animal life, buildings and materials. Secondary Standards must be achieved within a "reasonable" time period, whose length is not specified. National Standards are expressed as permissible annual average concentrations, with short-term maximum concentrations which may occur only a certain number of times a year.

Standards for hydrocarbons, sulfur oxides, photochemical oxidants, carbon monoxide, particulates and nitrogen oxides were set on April 30, 1971 (they are listed at page 47). The Administrator must add to this list any other pollutant he finds dangerous to public health or

[1] The states are Alaska, Arizona, California, Colorado, Dist. of Columbia, Illinois, Maryland, Massachusetts, Minnesota, New York, Ohio, Oregon, Pennsylvania, Texas, Utah, Virginia, and Washington. See page 48 for a list of the specific cities.

welfare. Within one year after a pollutant has been listed, he must propose Standards for that pollutant and simultaneously issue Criteria and Control Documents. Proposed Standards must be made final after a 90-day comment period.

In effect, the Standards represent a federal ceiling on pollution. They are an effort to make pollution control uniform and to set adequate bases for abatement. They do not, however, prevent States from setting better standards. States are encouraged to set more stringent standards if they think their regions require them, or to protect regions with air quality already above the national Standards. This principle of "non-degradation" of presently pure regions has particularly strong support from Congress.

B. *Implementation Plans (Section 110)*

The Act requires each State to formulate an air pollution abatement plan for each air quality control region or part of one with the State boundaries. These *Implementation Plans* must set out in detail how the State intends to achieve and maintain the National Air Quality Standards in the required time. The Act requires one plan for meeting the Primary Standard and another for meeting the Secondary Standard, for each of the six pollutants, in each Air Quality Control Region (AQCR) in the State. (In practice, many of the plans will be combined in single documents.) All plans must be written, subjected to public hearings and submitted to the federal Environmental Protection Agency for approval by January 30, 1972. EPA must approve or reject each part of the plan within the next four months. Any plan or part of a plan takes effect upon approval. If no plan or an inadequate plan is submitted, EPA must put its own into effect within six months.

Early in April, 1971, EPA proposed federal Guidelines elaborating the requirements in Section 110 of the Act for the contents of implementation plans. These regulations were made final on August 14 and reprinted on November 25, 1971 (36 Fed. Reg. 22398).

The Act and Guidelines require implementation plans to include these elements:

—A demonstration that the State air pollution control agency has *adequate legal authority* to carry out the measures of the plan. All laws and administrative regulations needed (with two exceptions) must be in effect at the time the plan is submitted to EPA.

—A *control strategy*. This must include a *survey* of the region's existing air quality and a detailed *inventory* of the emissions from all pollution sources in the region to help determine what kind of air pollution problem exists and what must be done about it. The control strategy must set forth all the *measures* that will be taken to make the region's air quality conform to the National Standards. These measures must include emission limitations, saying how much pollutant each source can emit, and other control procedures, such as process changes, fuel controls, and *land use and transportation controls*, if they are necessary to meet the Standards. The control strategy must also include *timetables* for compliance with its control measures, and a *demonstration* that the control strategy will be adequate to meet the National Air Quality Standards in the required time.

—*Enforcement procedures* for making sure that the control strategy is followed.

—A *monitoring system*, including a network for sampling ambient air quality, and procedures for inspecting and monitoring emissions from each source of air pollution. Emission data must be reported to the State control agency, and these reports must be available to the public.

—*Emergency procedures* for dealing with high-pollution crises.

—*Procedures for reviewing*—and *stopping*, if necessary—construction of new air pollution sources, modification of existing ones, and operation of all sources to be sure that they will not interfere with meeting an Air Quality Standard on time.

—*Procedures for revising the plan* when it is found inadequate, when new control techniques are found, when new Air Quality Standards are set, or when the State wishes to grant a variance from the original control strategy.



—*Procedures for inter-governmental cooperation*, including measures to insure that pollution from one region will not interfere with achieving Air Quality Standards in another.

—*Procedures for inspecting used autos* to enforce compliance with the control strategy.

—A demonstration that the State will have *manpower* and *funding* adequate to implement the implementation plan.

The Act and Guidelines require States to hold public hearings on any plan or revision of a plan before it is submitted to EPA for approval. Prominent notice of the hearing must be given and a copy of the proposed plan made publicly available at least 30 days before the hearing date.

The Guidelines (section 51.3) also establish a classification system for AQCR's as Priority I, II or III regions, according to the severity of their pollution problems.

The Guidelines (section 51.7) also require submission of two series of reports beginning after a State's implementation plans are approved by EPA. Quarterly reports must contain information on current ambient air quality. Semiannual reports must describe current progress in carrying out the approved implementation plans and any revisions of rules, regulations or compliance schedules made in the plan.

C. *Extension Provisions (Section 110 of the Act, and Subpart C of the Guidelines)*

The Act and Guidelines provide for four different kinds of extensions:

—An 18-month extension of the deadline for submitting a plan implementing any National Secondary Air Quality Standard;

—A two-year extension of the time in which an air quality control region must comply with a National Primary Air Quality Standard;

—An extension of the time in which an air quality control region must comply with the National Secondary Air Quality Standard for sulfur oxides (the Act says the deadline must be a specified "reasonable time" after approval of the plan; the Guidelines say three years, but allow an extension of unspecified length if certain conditions are met);

—A one-year extension of the time in which certain sources must comply with certain measures of an implementation plan for either a Primary or a Secondary Standard.

All four extensions are subject to specific conditions and can only be granted by the Administrator of EPA.

## III. EPA'S APPROVAL OF IMPLEMENTATION PLANS

All States submitted Implementation Plans by January 3, 1972 or shortly thereafter. On May 31, 1972, the Administrator of EPA announced his approval and disapproval of plans. He revealed that EPA had decided to give the States until February 15, 1973 to submit portions of plans dealing with transportation control measures. EPA's stated reason for this unauthorized delay was that the States needed more time to develop the data necessary to select between various transportation controls. A list of the States submitting transportation controls on February 15 is on page 48.

Also on May 31, 1972, EPA announced that it had granted extensions of the deadline for meeting the national standards from 1975 to 1977 to all States which requested extension if they showed that they needed transportation controls in order to meet the standards. A list of the States receiving two-year extensions on this basis is on pp.48-49. All of these extensions are being challenged by NRDC in the courts on the ground that it has not been demonstrated that these States cannot attain the standards by 1975.

## IV. INTRODUCTION TO TRANSPORTATION CONTROLS

This section will briefly identify the basic measures which your State can consider to reduce emissions from mobile sources. A more detailed discussion of each control measure will follow in section VII. The federal government has taken over the control of emissions from new motor vehicles. Thus, the States (with the exception of California) are limited to controlling emissions from vehicles already on the road. The two methods of reducing emissions from these sources are (A) by reducing the number of vehicles on the road and (B) by reducing the amount each vehicle pollutes.

As will be discussed in section V, a major cause of our urban motor vehicle pollution problem is our excessive dependence on the automobile in our major metropolitan areas. The most meaningful control strategies will be the ones which attack this problem directly by a series of coordinated steps designed to improve mass and public transportation systems while at the same time restraining and restricting private automobile use in our most polluted areas.

*Transit Improvements.* The available short-term public transportation improvements include fare reductions, improved routing and scheduling of buses, establishment of exclusive or preferential bus lanes, creation of demand-responsive bus services, provision of shared taxis, and improvements of the walking and bicycling environment.

*Vehicle Restraints.* To encourage the development of these transit improvements and to assure greater use of public transportation, *vehicle restraints* of the following types must be adopted: bridge and road toll increases, parking restrictions, parking fee increases, auto-free zones, strong car-pooling programs, increased gasoline taxes, and moratoriums on highway construction.

*Retrofits, Maintenance, and Inspection.* Individual vehicle emissions can be reduced by equipping used vehicles with emission control devices (generally termed *retrofit* devices), by requiring that all vehicles receive specified *maintenance* on a regular basis, and by use of *emissions inspection programs* designed to determine whether the vehicles are properly equipped and maintained.

## V. THE AUTO AND THE CITY: ADVERSE ENVIRONMENTAL EFFECTS

While under the Clean Air Act transportation control portions of Implementation Plans need only have the result of achieving cleaner air, it is clear that any measures which reduce vehicle traffic will also produce many other environmental benefits. The following discussion of the ills associated with present-day auto use will indicate the variety of problems which traffic reduction strategies can alleviate.

During the last fifty years while the population of the United States doubled, the number of automobiles on the road increased by a phenomenal *800%*. And just as the population distribution has shifted to our urban areas, automobile use has converged on the city. Today over 54% of total vehicle miles traveled (1.2 million annually) are within the urban areas that comprise less than 1% of the nation's total land area. These automobiles and trucks spew deadly pollutants into our air—97 million tons a year of carbon monoxide alone—and cause as much as 90% of the total pollution problems in major cities. Most urban area residents rely exclusively on the automobile for transportation, and our auto use is on the upswing.

The number of cars on the road increases at a steady rate of 3 to 4% a year. Already there's a car on the road for every two people in the U.S. The number of families with two or more cars increased 50% in the last ten years—and the number is growing at an even faster rate than families attaining their first car. Not only are there more cars on the road, but we use them more. The average number of miles driven per vehicle has increased steadily to over 10,000 miles a year; and the rate of gasoline consumption increases by about 5% annually.

The most disturbing statistics are those that reflect our driving patterns. Over half of all auto trips are for distances of less than five miles. The largest share of total auto travel is in



trips from home to work. Eighty-two percent of all commuting is done by automobile—usually by a driver traveling alone. Even where mass transit facilities are readily available (within ¼ mile's distance) 68% of the work force continues to use the automobile.[2]

Behind this amazing growth and increased reliance stands an investment of over $70 billion and 42,000 miles in paved super highways, over $90 billion in annual motor vehicle sales, a combined advertising effort of over $300 million, as well as accommodation and inducements in the form of large shopping malls surrounded by acres of parking space and drive-in facilities of every sort—banks, eating places, dry cleaners, even churches. But the automobile does not merely serve our transportation needs, it is a status symbol; linked with visions of freedom, speed, and power; advertised as an accoutrement to one's sexuality; and packaged to represent comfort and convenience.

Once encased inside this 2-ton machine, equipped to travel at racetrack speeds, one may be touched by a fleeting illusion of privacy, safety, power and freedom. But while this illusion persists, our driving practices belie it. One commentator was led to assert that the only place one ever sees a single car take the road is on T.V. Instead of an agent of power and freedom, the automobile has become a virtual prison for its owner every morning from 7 to 9—trapping him in lines of traffic moving at speeds of 5 to 7 miles per hour.

The scenery left on the highways between home and work, where most of our travel takes place, consists of factories, shopping centers, and other housing developments: the unaesthetic suburban sprawl that inevitably follows the construction of each new highway. And for all the added construction and the increased horsepower, automobile travel time continues to mount. It takes the average commuter in Washington 30 minutes to travel the last five miles into the city. In New York City even at off peak hours the roadways are filled to almost 90% capacity[3] and average speeds have declined steadily down to 5½ mph.[4]

The automobile is also the largest single killer of our nation's young people (17 to 25 years old). Although fatality rates, quoted in terms of deaths per miles traveled, declined slightly in the last year, overall deaths on the road continue to rise—now totaling over 55,000 fatalities annually.[5] The sight of cars piled up on the side of major turnpikes is a daily occurrence for the average commuter. On rainy days cities regularly deploy additional police cars and tow trucks to cover freeways during peak hours.

Although highway engineers tout statistics to show that high-speed turnpikes such as the Interstate System offer the safest driving conditions, only 20 percent of our travel actually takes place on those roads. The multi-lane freeways that link suburb and city, meanwhile, are filled to capacity—and as one transportation specialist noted, this saturation poses "a dangerous situation that only promises to get more dangerous."[6] The fatality rate is greater in densely populated areas: in cities with populations of one million and over the rate is 3.5 per 10,000 vehicles while the average for smaller communities is less than 2.5 deaths.

And while auto makers hail the "miracle" of mass production that has "lowered costs and placed auto ownership in reach of nearly every worker . . . to discover new freedom",[7] one-fourth of our population—the aged, handicapped, and poor—are outside the "reach" of automobile travel. They are virtually locked in the inner-city, and rendered immobile owing to

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[2] *1972 Automobile Facts & Figures*, Motor Vehicle Manufacturer's Assoc., p. 36.

[3] *Manhattan Auto Study*, sponsored by the City Club Research Foundation, December 1972, (draft), p. 2.

[4] Interview with Michael Walsh, New York City Air Resources Board, November 22, 1972.

[5] In comparison DOT officials report that the urban public transportation system is the safest way to travel—with fewer than 1,000 fatalities a year nationwide; the same DOT document states that the auto ranks last in safety and poses the greatest challenge to safety engineers.

[6] John Burby, *The Great American Motion Sickness*, Little, Brown and Company: Boston, (1971) p. 98. Quote from William Siefert, Massachusetts Institute of Technology.

[7] *1972 Auto. Facts & Figures*, *supra* n. 2 at p. 39.

the demise of mass transit services. A major complaint of the riot-torn Watts community was that "a worker had to leave home at 5:30 a.m., take five different buses and pay 73¢ to reach a Santa Monica aircraft factory for the 7:30 shift." The only means of transportation to the hospital was by taxi, at $10 round-trip, so "when a man in Watts complained he didn't feel well, the bitter question was whether he felt 'ten-dollars bad'."[8] Where municipal governments allow transit services to shrink, they not only foster reliance on the private automobile, but they effectively deny a significant proportion of the population the mobility other Americans enjoy.

Furthermore, the automobile is our least efficient means of transport in terms of energy consumption. The average occupancy rate of the automobile has dropped to 1.2 passengers. Studies have determined an ordinary bus in urban travel is almost six times as efficient as the automobile (traveling the equivalent of 40 passenger miles per gallon compared to 7 p.m. per gallon for the auto). Automobile travel consumes over 1/5 of our total energy supplies in the U.S.—almost all of this petroleum products, the energy resource now in shortest supply. Government studies, projecting that by 1980 we will need to import over 50% of our oil supplies, recommend that conservation measures be adopted with regard to automobile and truck travel to reduce our overall demand and avert an energy crisis.[9]

Finally, even though much of the cost of using automobiles is hidden, the direct costs are still astronomical. Over 1/3 of the average yearly family income is required to purchase a new car. In addition, Americans spend over $10 billion annually for automotive servicing (1/6 of the total sales for all service industries combined) and virtually one of every four dollars in retail sales in the country is spent on auto-related purchases (parts, fuel, accessories).

Indirect costs are also huge. The Department of Transportation estimated in 1970 that for every dollar the automobile owner spends, someone else spends 30¢—for policing, road maintenance, losses due to air pollution, etc. The courts, their dockets jammed, are devoting 57% of their time to cases involving automobiles. As early as 1959 a Philadelphia city official estimated that the city was subsidizing the individual auto-user to the tune of $50 per car per year—an amount equal to 8% of the city's general fund. In Manhattan, the economic loss to the community from congestion is estimated at over $1 billion annually.[10] The cost of trucking in New York City runs 60% above national levels, largely due to congestion; and this added expense for delivery of goods and services is eventually passed on to the consumer.

We have yet to determine the true amount of other hidden costs to society—in the form of lost land area, urban sprawl and the concomitant breakdown of the inner-city, and increased levels of noise and air pollution. Additional highway construction and parking areas deprive the community of needed land area and real estate and erode the property tax base. In New York City "more ground area in the Central Business District (37%) is devoted to [automobile] transportation than to any other activity."[11] Increased automobile and truck traffic during the day is generating higher noise levels which are not only annoying but actually injurious to our health.[12]

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[8] Burby, *supra* n. 6 at p. 126.

[9] *The Potential for Energy Conservation—A Staff Study*, October 1, 1972, Exec. Office of the President, Office of Emergency Preparedness, pp. ii ff.

[10] *Manhattan Auto Study*, *supra* n. 3 at p. 1 (draft).

[11] Id., p. 6

[12] The recent EPA report on noise found: "Of all the irritant noise sources in both urban and rural settings, traffic noise has been isolated as the most significant". Besides the effects of noise on our hearing ability, scientists know that at levels above 70 decibels there is an acceleration of heart rate, changes in breathing, and changes in the secretion of juices in the gastrointestinal tract. There is evidence of cardio-vascular ailments occurring from continued exposure to high noise levels. And lower levels result in psychological stress, increased irritability and anxiety. The automobile generates noise levels of 70 to 80 decibels at ranges of 50 feet and trucks produce levels as high as 95 decibels. (See EPA *Report to the President and Congress on Noise*, S. Doc. No. 92-63, 92nd Congress, 2d Sess. February, 1972.)



But perhaps the greatest impact from increased auto-use in the city, is the deterioration of our air quality. The table on the following page shows the overwhelming percentage of three major pollutants contributed by mobile sources in major U.S. cities. Although we know the automobile is the most significant contributor to air pollution in our urban centers, it is difficult to assess the extent of the damage. Auto pollutants kill trees and crops in the Los Angeles area and doctors there order 10,000 people a year to move to a city with cleaner air. In auto-congested cities there is enough carbon monoxide in the air at times to reduce the blood's oxygen-carrying capacity by twenty percent.[13] In Chicago carbon monoxide concentrations exceeded levels damaging to public health more than 22 percent of the time.[14]

Carbon monoxide (CO), the pollutant emitted in the largest concentrations in motor vehicle exhaust, affects humans by combining with hemoglobin in the blood stream—displacing the supply of oxygen being carried to the cells. In high concentrations, such as exposure to raw auto exhaust, CO poisoning is rapid and deadly. But even at lower concentrations which are not fatal, CO exposure is associated with headache, fatigue, shortness of breath, cramps, coughing, vomiting, loss of feeling in forearms, and other maladies.

Nitrogen oxide ($NO_x$), though emitted in much lower quantities in the exhaust stream, is technologically more difficult to control—and automobile exhaust accounts for 30% to 88% of the total $NO_x$ emissions in our cities. Once released in the atmosphere nitrogen oxides combine with oxygen to form $NO_2$ which produces harmful effects on the lungs. Government studies have reported significant association between high $NO_2$ levels and the incidence of acute bronchitis among children and increased occurrence of acute respiratory disease at all ages.[15] Furthermore, these levels are exceeded in almost every U.S. city with populations over 500,000, and EPA reported that existing ambient concentrations of $NO_2$ are a "direct threat to general health".[16]

The most commonly observed effect of $NO_x$ emissions, however, is when it combines with hydrocarbons (also present in automobile exhaust) in the presence of sunlight to form photochemical smog. This chemical reaction results in the formation of other dangerous pollutants: ozone and PAN (peroxy-acetyl nitrate). Ozone affects the function of the lungs, aggravates asthma, and can even reduce coordination. PAN is a severe eye irritant—the element in smog that causes stinging eyes and tearing. But these chemicals have an even more measurable effect on vegetation. Oxidants and hydrocarbons cause spinach to wither and have damaged crops of tobacco, beets, celery, and lettuce. The decline in citrus crop yields in Southern California has been attributed to smog from the Los Angeles area; and on the East Coast, damage to crops from smog is estimated at $18 million a year.[17]

Besides the dangers from CO, $NO_x$, and HC, there is mounting evidence of health hazards from lead emitted in automotive exhaust; this occurs when gasoline containing lead additives is used. Essentially all airborne lead results from automobile exhausts, contributing significantly to the lead concentrations found in humans. In high concentrations lead causes kidney disease, mental retardation, and death. Furthermore, a correlation has been found between existing levels of lead in the air and hyperactivity in children and brain damage in human fetuses. Although gasoline containing lead additives has recently come under federal regulation, critics charge that the proposed regulations are too little too late. The regulations apply chiefly to making non-leaded fuels available by 1974—to accommodate the introduction of 1975 model cars equipped with catalytic converters for emissions control. (This catalyst is

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[13] Burby, *supra* no. 6 at p. 79.

[14] Senate Report No. 91-1196, 91st Cong., 2d Sess., (1971), p. 1.

[15] HEW 1968-69 study in Chattanooga, Tenn. Cited in "Air Quality Criteria for Nitrogen Oxides," HEW, (1970) AP-84, p. 10-8.

[16] *Idem.*

[17] *Air Conservation*: The Report of the Air Conservation Commission of the American Association for the Advancement of Science, Publication No. 80 (Washington: 1965), p. 952.

## AIR POLLUTION IMPACT OF TRANSPORTATION*

### Stationary—Mobile Source Emissions Split

| | | CO | | HC | | $NO_x$ | |
|---|---|---|---|---|---|---|---|
| | | [1]Mobile | Stationary | Mobile | Stationary | Mobile | Stationary |
| National Totals ($10^6$) Tons/Year) | 1969[2] | 111.5 | 39.9 | 19.8 | 16.9 | 11.2 | 12.6 |
| National Percent | | 66 | 34 | 54 | 46 | 47 | 53 |
| Region | Study Year | PERCENT | | | | | |
| San Francisco[3] | | 94 | 6 | 83 | 17 | 76 | 24 |
| Denver[3] | | 99 | 1 | 88 | 12 | 71 | 29 |
| Los Angeles[3] | | 99 | 1 | 90 | 10 | 88 | 22 |
| New York[3] | | 98 | 2 | 67 | 33 | 33 | 67 |
| Washington, D.C.[3] | | 98.5 | 1.5 | 83 | 17 | 31 | 69 |
| Dallas-Ft. Worth[4] | 1967 | 95 | 5 | 99.4 | 0.6 | 68 | 32 |
| Phoenix-Tucson[4] | 1967 | 97 | 3 | 92 | 8 | 88 | 12 |
| Charlotte[4] | 1969 | 94 | 6 | 73 | 27 | 23 | 77 |
| Greater Hartford[4] | 1967 | 94 | 6 | 86 | 14 | 36 | 64 |
| Providence[4] | 1969 | 95 | 5 | 95 | 5 | 34 | 66 |
| Atlanta[4] | 1968 | 93 | 7 | 86 | 14 | 39 | 61 |

[1]Mobile sources include gasoline motor vehicles, diesel motor vehicles, aircraft, railroads, off-highways use of motor fuel, and vehicle fuel evaporation.

[2]*Summary of Nationwide Emission Estimates of Air Pollutants*, 1969, Division of Applied Technology (DAT), Office of Air Programs (OAP), EPA Revised, May, 1971.

[3]Source: State Implementation Plans, submitted to OAP, EPA, January, 1972.

[4]Source: Emission Inventory Studies, National Source Inventory Section, OAP, EPA.

*"The Implications for Transportation of New Federal Air Pollution Controls" Ronald A. Venezia, Chief, Land Use Planning Branch, Environmental Protection Agency, Office of Air Programs, Research Triangle Park, N.C.



"poisoned" by lead in the exhaust gas). The government has also proposed limits for the amount of lead that can be added to fuels, beginning in 1975. However, as long as leaded fuels are on the market, the hazard from increased lead concentration in the air and in our bodies will remain. Transportation controls to limit automobile use may be the only means left for reducing air borne lead emissions during the next two or three years before federal regulation takes effect as well as in future years when older model cars on the road will still be operating on leaded fuel.

Other auto pollutants whose effects have not yet been assessed include finely divided particles of rubber and asbestos. The rubber results from tire wear, while the asbestos particles come from brake linings. Both of these pollutants are a hazard to health if present in sufficient quantities.

The available facts and figures make it clear that the present level of automobile use in urban America is a hazard to health and has exceeded the point of economic advantage or personal convenience. The automobile is simply one means of transportation—a mode offering flexibility and convenience for the *non-routine* trip: emergency service; escape to places away from the crowds. But for our cities the auto does not provide the best of service. Rather, it traps auto-users and non-users alike in a web of congestion, noise, accidents, choking air, and concrete.

In your testimony and presentations, you should stress that, because of the many adverse effects of urban auto use, transportation control measures such as transit improvements and vehicle restraints, which result in *fewer* cars in the cities, will confer greater overall benefits than the technological emission control measures which simply will result in somewhat *cleaner* cars.

## VI. REQUIREMENTS AND STRUCTURE OF TRANSPORTATION CONTROL PLANS.

This section will discuss the general form and contents required by federal law for transportation control portions of plans. The basic documents setting forth these requirements are EPA's "Requirements for Preparation, Adoption, and Submittal of Implementation Plans" (hereafter referred to as the *Guidelines*) published in August, 1971 and reprinted on the *Federal Register* at 36 *Fed. Reg.* 22398 and amendments to these Guidelines relating specifically to transportation control measures (hereafter referred to as the amendments).[18]

The Guidelines call on each State to:

—determine the pollution reduction necessary for each urban region

—demonstrate the adequacy of particular strategies to attain that reduction

—achieve the standards by 1975 unless impossible

—maintain the standards after achievement

—include adequate provisions for enforcing the plan

—provide for surveillance of sources of air pollution

—possess adequate legal authority to carry out the plan

—summarize the data used to project reductions resulting from particular control strategies.

[18]These amendments were just published in the *Federal Register* in proposed form at 38 *Fed. Reg.* 1464, January 12, 1973. Ask your local air pollution control agency or your EPA Regional Office for these documents.

A. *Determining Emission Reductions Needed.*

To determine the reduction necessary for a particular region, the State agency will employ a prediction technique termed a "model." The Guidelines require the State to use either a "diffusion" or a "proportional" (roll-back) model—unless it can demonstrate to the satisfaction of EPA that some other model is preferable.

In developing the diffusion model, a network of grids is superimposed on a map of the region and individual emission point sources are plotted on the map. Meteorological conditions and topography of the region are also incorporated in the model. The model therefore reflects the movement, concentration, and dilution of pollutants as well as the total amounts present in the region's air. Developing a diffusion model requires extensive emission inventories from individual sources, including emission rates, stack heights, and plume rise. While this type of model is recognized as the most accurate indicator of actual pollution levels within a region, most agencies, unfortunately, do not have the necessary data or resources to develop such a model.

The proportional or roll-back model is a much simpler method for determining the degree of reductions needed. Basically, it involves calculating the difference between the national standard for a particular pollutant and the existing concentration of that pollutant (known as the air quality base line).

For example, if the existing concentration for carbon monoxide (CO) is 18 ppm, achievement of the CO standard of 9 ppm would require this air quality base line to be reduced by 50%. The roll-back model assures that this reduction in *ambient concentration* can be achieved by reducing present *emissions* by the same degree. Thus if present emissions of CO are 160 tons per day and the present concentration of CO is 18 ppm, the roll-back model assumes that if CO emissions are reduced by 50% to 80 tons per day then CO concentrations will be reduced to 9 ppm. The computations in the roll-back model should include a factor to account for any existing background concentration, as well as a factor reflecting projected growth resulting in increased emissions.

It must be emphasized that the roll-back model is a primitive tool for designing a control strategy. Since the model only concerns itself with total tonnage of pollutants over a large area it cannot take account of pollution concentrations resulting from unequal spatial distribution of pollutants in various zones of the area under study. This is a particularly unfortunate shortcoming in designing a strategy to control mobile sources. Changes in traffic patterns over the period of the next few years may invalidate assumptions made in the roll-back model. As is discussed below in section VI this shortcoming emphasizes the need to select strategies which can determine future traffic patterns.

It is clear that the present air quality base line is a critical piece of information in the implementation plan. This air quality level when compared to the standard determines the amount of "work" that the State will have to do in terms of reducing emissions from sources. For example, if present CO air quality is 36 ppm a 75% reduction in emissions will be needed to meet the standard of 9 ppm; whereas if present CO levels are at 18 ppm only a 50% reduction is needed. Two determinants of the air quality baseline are of interest.

First, the validity of your State's air quality base line data depends on the location of its sampling sites. Section 51.17 of the Guidelines requires that at least one site for each pollutant be located in the "area of estimated maximum pollutant concentrations." If your State's transportation control plan does not specify the location of its samplers, check the portions of its plan submitted last year. The Guidelines require that the State's monitoring system be described in detail, so if you do not find the description in last year's submission insist that it be included in the transportation control portion. Find out the location of your city's samplers before the hearings. If you discover that no samplers are located at any of your area's major intersections, object, and request that they be installed promptly, for these are places likely to be high in auto pollutants.

Second, your State may attempt to rely on previously submitted air quality data for the base line even if more recent data shows higher levels of pollution. In support of its position the



State may cite (§51.14(g) of the amendments to the Guidelines which states that "the concentrations of carbon monoxide and photochemical oxidents set forth in the State plan as approved and promulgated on May 31, 1972. . . should be used as the air quality base line." However, the selection also states that "more recent air quality data may be used where adequate and appropriate." Just what is considered to be "adequate and appropriate" is subject to question. However, there are some indications that EPA will not consider new data adequate unless it is from a monitoring station which has been in use for at least three months. This requirements has merit if the State contends that more recent data shows that present air quality is *better* than previously measured, for short term weather conditions such as a period of high winds can clear the air temporarily. However, if more recent data shows that air quality is *worse* now it should not be ignored even if measurements were limited to one or two days, for the standards for CO and photochemical oxidants are not to be exceeded more than once per year. Thus you should insist that in setting its air quality baseline your State should use the maximum values which it has measured, even if these measurements were made after its original plan was submitted.

B. *Demonstration of the Adequacy of the Strategy*

Once the necessary emission reduction is determined, the State surveys the available techniques for reducing emissions and selects a package of measures with a total emission reduction potential at least as great as the reduction needed. Just as States may be tempted to minimize the reductions they need to achieve, so may they tend to generosity in estimating the reductions they expect to achieve from the strategies they select. Your State may be tempted in the absence of hard data to assume maximum reductions from the strategies it embraces. This is contrary to the Act's requirement that the control measures adopted must be adequate to "*insure* attainment and maintenance" of the standards. If the range of potential effectiveness of a strategy is wide, the State must assume only that the minimum, and not the maximum, reductions will result. Another advisable course is to insist that your State's plan include a sufficient number of strategies so that the emission reduction predicted for the set of strategies is greater than what the rollback model indicates is needed. For example, if the model indicates that a reduction of 50 tons in daily CO emissions is necessary, the State should adopt a set of strategies capable of reducing CO emissions by 75 tons daily. This margin of safety is necessary because of uncertainties in the accuracy of the rollback model in predicting reductions needed as well as uncertainties in estimates of the effectiveness of various transportation control measures in reducing emissions.

The uncertainty regarding how well specific control measures will work also makes it necessary to avoid adopting a plan which relies exclusively on one transportation control measure. The prudent planning course is to implement several strategies of moderate intensity rather than one strategy of extreme intensity. If a State goes forward now with several strategies it will be able to react in a flexible manner to the information that will develop as to the relative efficacy of the various strategies. The State which embraces a single strategy which fails will have to start over again with a new unknown strategy; while the State with several strategies will merely put greater emphasis on the strategies which experience has proven most efficacious.

C. *Date for Achievement of Standards.*

Section 110(a) (2) (A) of the Act requires that States' plans provide for attainment of the primary air quality standards as "expeditiously as practicable" but "in no case later than three years from the date of approval" of the plans. Since State plans were generally approved in May, 1972 the attainment date required by the law is *May 1975* or earlier.

Section 110(e) of the Act permits a State to apply for an extension of the 1975 attainment date to as late as 1977. Section 110(e) allows this two-year extension to be granted by EPA only if the State adopts and submits an adequate plan and demonstrates that specific control measures in the plan cannot be complied with within the three-year period because the technology or other alternatives necessary to enable compliance are not available.

The Act requires the Administrator himself to determine such technology or other alternatives will not be available soon enough. The Administrator must also require the application of reasonable interim controls.

The exact language of §110(e) is as follows:

> "(e)(1) Upon application of a Governor of a State at the time of submission of any plan implementing a national ambient air quality primary standard, the Administrator may (subject to paragraph (2) ) extend the three-year period referred to in sub-section (a) (2) (A) (i) for not more than two years for an air quality control region if after review of such plan the Administrator determines that—
>
> "(A) one or more emission sources (or classes of moving sources) are unable to comply with the requirements of such plan which implement such primary standard because the necessary technology or other alternatives are not available or will not be available soon enough to permit compliance within such three-year period, and
>
> "(B) the State has considered and applied as a part of its plan reasonably available alternative means of attaining such primary standard and has justifiably concluded that attainment of such primary standard within the three years cannot be achieved.
>
> "(2) The Administrator may grant an extension under paragraph (1) only if he determines that the State plan provides for—
>
> "(A) application of the requirements of the plan which implement such primary standard to all emission sources in such region other than the sources (or classes) described in paragraph (1) (A) within the three-year period, and
>
> "(B) such interim measures of control of the sources (or classes) described in paragraph (1) (A) as the Administrator determines to be reasonable under the circumstances.

In addition, EPA's own Guidelines repeat the conditions that must be met before an extension can be granted:

> §51.30 Request for 2-year extension.
>
> (a) The Governor of a State may, at the time of submission of a plan to implement a primary standard in a Priority I region, request the Administrator to extend, for a period not exceeding 2 years, the 3-year period prescribed by the Act for attainment of the primary standard in such region.
>
> (b) Any such request regarding an interstate region shall be submitted jointly with the requests of Governors of all States in the region, or shall show that the Governor of each State in the region has been notified of such a request.
>
> (c) Any such request regarding attainment of a primary standard shall be submitted together with a plan which shall:
>
> (1) Set forth a control strategy adequate for attainment of such primary standard.
>
> (2) Show that the necessary technology or alternatives will not be available soon enough to permit full implementation of such control strategy within such 3-year period, i.e., one or more emission sources or classes of sources will be unable to comply with applicable portions of the control strategy.
>
> (3) Provide for attainment of such primary standard as expeditiously as practicable, but in no case later than 5 years after the date of the Administrator's approval of such plan.
>
> (d) Any showing pursuant to paragraph (c) of this section shall include:
>
> (1) A clear identification of stationary emission sources or classes of moving sources which will be unable to comply with the applicable portions of such control strategy within a 3-year period because the necessary technology or alternatives will not be available soon enough to permit such compliance.
>
> (2) A clear identification and justification of any assumptions made with the respect to the time at which the necessary technology or alternatives will be available.



> (3) A clear identification of any alternative means of attainment of such primary standard which were considered and rejected.
>
> (4) A showing that stationary emission sources or classes of moving sources other than those identified pursuant to subparagraph (1) of this paragraph will be required to comply, within such 3-year period, with any applicable portions of such control strategy.
>
> (5) A showing that reasonable interim control measures are provided for in such plan with respect to emissions from the sources(s) identified pursuant to subparagraph (1) of this paragraph.

On May 31, 1972 EPA granted two-year extensions from 1975 to 1977 for attainment of the carbon monoxide and photochemical oxidant standards to seventeen States. However, in granting these extensions EPA did not obey the conditions of the law or its Guidelines. Instead it granted an extension to any State which needs transportation controls to achieve the standards.[19] Most importantly, in granting these extensions EPA did not require the States to demonstrate that it is technologically impossible for them to attain the standards by 1975.

As mentioned earlier NRDC has appealed all of these extension decisions to the courts. It is not likely that the courts will rule before February 15. However, even if your State has already been granted an extension, you can urge your State to comply with the law now.

If your State argues that it cannot meet the standards by 1975 you should insist that it follow the requirements of the law to establish the need for this delay. The law requires that the State must first design a plan that includes enough control measures to meet the standards by 1975 and then must demonstrate that the plan cannot be complied with by 1975 because *the technology necessary to carry out the control measures is not available*. This is the *only* permissible basis for an extension. General arguments about legal, administrative, or political difficulties in carrying out some control measures are not legally sufficient grounds for delay. Nor are general arguments about the "technical unworkability" of some control measures sufficient. While you should present your best arguments, it is not the citizen's responsibility to prove that suggested measures are workable; it is the *State's* duty to prove that the measures citizens suggest cannot be applied early enough, *because of the lack of technology*, to meet the standards by 1975. In most instances the State will not be able to demonstrate that this is true. Thus, you should insist that as a first step in setting an attainment date that your State assemble a plan with sufficient control measures to meet the standards by 1975. Most States will not have done this.

Citizens should also insist that even if the State decides to submit a plan that aims for a date beyond 1975, that the plan must contain available interim control measures as required by §110(e) and the Guidelines. These measures should, at a minimum, include combined transit improvement and vehicle restraints programs.

Your State may argue (or silently conclude) that since EPA has already granted it an extension it does not have to demonstrate impossibility or include interim controls. Citizens would be wise to anticipate this attitude. You should demand that if you are going to be exposed to hazardous levels of pollution for two additional years because of the State's inaction that you are entitled to a detailed public explanation in the plan of the specific technological reasons why an earlier attainment date is not possible.

If the State agrees with you but argues that it cannot prepare the 1975 plan in time for submission to EPA by February 15, insist that the State begin work on it immediately and call a second public hearing as soon as the 1975 plan is completed. Remind your State

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[19] All States required to submit transportation control strategies on Feb. 15 were granted extensions, except for Alaska, District of Columbia, Illinois, Nevada, and Oregon (which did not ask for extensions). In addition the States of Alabama, Indiana, Kansas, Massachusetts (for Springfield), Missouri, and Ohio (for Toledo and Cincinnati) were granted extensions which allowed them not to submit any transportation control strategies because their plans stated that the Federal Motor Vehicle Emission Control Program alone would allow them to meet the standards by 1977.

officials that if they do not act now to reassess their ability to meet the standards by 1975 that the courts or EPA may force such a reanalysis in a few months time. In announcing the extensions on May 31, 1972 EPA stated:

> timetables for attainment of primary standards will be subject to continuing examination, and, where the Administrator finds that more expeditious attainment is practicable, States will be required to revise their timetables. (37 Fed. Reg. 10845.)

D. *Maintaining Standards After Achievement*

The Act in section 110(a) and the Guidelines in section 51.12(a) expressly require that State plans include strategies which are adequate to insure not only the attainment of standards but also the maintenance of the standards thereafter. In the case of automotive pollutants this means the States must either develop measures which will eliminate increasing auto use as an inevitable accompaniment to future growth and development, or require large enough emission reductions now to offset future auto emissions growth, or finally to control growth and development themselves.

The amendments to the Guidelines repeat the requirement that the plan must maintain the standards after they have been reached:

> States preparing transportation control plans are also urged to give special consideration to Sections 51.12(a) and 51.14(c) (1) concerning the maintenance of the national ambient air quality standards and the offsetting of emissions increases due to growth in motor vehicle traffic and other factors. Consideration should be given to the possibility that certain improvements in transportation systems (e.g., traffic flow improvements, construction of fixed-guideway mass transit facilities) may stimulate gradual increases in motor vehicle traffic and, consequently, in emissions from transportation sources. Transportation control plans should include provisions as necessary to prevent such emissions increases from leading to pollutant concentrations that exceed the national ambient air quality standards.

In addition Appendix M of the amendments requires that the total emissions for HC, CO and $NO_x$ both with and without implementation of the proposed transportation control strategies be projected for a minimum of five years beyond the date of attainment of the standards. NRDC is of the opinion that a 15-20 year projection requirement is more in keeping with the duty of responsible planning created by the Clean Air Act. Should you fail to convince your State to think this far ahead you can point out that if it fails to project for at least five years the plan may be disapproved by EPA as inadequate to insure maintenance of the standards. By insisting that your State comply with this requirement you can increase the necessity for it to commit itself to measures designed to maintain standards. Such measures can include long-range land-use and transportation planning. At a minimum you should urge your State to commission studies now of the air pollution effects of various alternative growth patterns and transportation system scenarios for the next 20 years. A step which can be taken immediately is the adoption of a regulation requiring all new significant construction projects to demonstrate that they will not generate traffic volumes or patterns which interfere with the attainment or maintenance of the standards. This strategy is discussed at greater length in Section VII—C below.

E. *Enforcement Requirements*

The transportation control plan Guideline amendments emphasize the importance of developing adequate enforcement procedures to assure that the selected transportation control measures are complied with. They require the States to outline all enforcement procedures to be used. Section 51.14(a) (3) of the amendments requires each State plan to—

> —describe the administrative procedures and the rules and regulations necessary to implement control measures



> —specify the date for implementing each control measure
>
> —define the agency or agencies responsible for enforcing particular control strategies (i.e. state police, city police, air pollution control officials, department of motor vehicle officials, etc.)
>
> —summarize the method for monitoring compliance with the control program (spot checks for exhaust emission levels, ticketing single occupant cars traveling in carpool or bus lanes, etc.)
>
> —outline the procedure for handling violations

EPA's Mobile Source Enforcement Division has circulated an additional document to the States detailing enforcement considerations. Since the document may not be generally available we reprint it here.

**Enforcement Considerations Regarding Approvable Transportation Control Strategies**

Pursuant to the publication of the proposed Transportation Guidelines in 40 CFR Part 51, the Mobile Source Enforcement Division is providing the States with the following amplification upon § 51.14(a)(3)(i)-(iv). In this manner, MSED intends to furnish guidance to the States as to how § 51.14(a)(3) should be interpreted in preparing acceptable transportation plans from an enforcement standpoint.

A. **Inpsection/Maintenance**

The requirements specified in Appendix N, Item 3.C. are considered the minimum substantive issues the State must address in order to establish an enforceable inspection/maintenance system. *The transportation plan must include proposed or adopted statutes or regulations which implement each of the requirements set forth.*

If the division of responsibility for enforcement of such a State program is shared among several agencies, each agency should clearly indicate its particular role and function. This agreement will preferably be in some tangible form, e.g. Memorandum of Understanding.

B. **Regulatory Controls**

There are certain control measures (i.e., bus lanes, carpool lanes, traffic restraints, loading restrictions, etc.) which require a regulation or ordinance to insure enforceability. *The State transportation plan must include proposed or adopted regulations to effectuate these types of controls.*

The plan should also designate the agency responsible for enforcing the regulation or ordinance and indicate how said agency will perform its enforcement role. For example, if a proposed strategy is express bus lanes, the responsible agency should include an explanation of what action they will take in order to insure compliance with regulations providing for exclusive bus lanes (i.e., prevent automobiles from using the bus lanes.)

The State should furnish an estimate of the manhours necessary in order to enforce regulations pertaining to transportation control strategies. Budgetary requirements should be juxtaposed to manhours by each agency responsible for enforcement.

C. **Capital Expenditure Measures**

There are certain aspects of given control measures (i.e., expanded bus systems, traffic flow improvements, etc.) which are non-regulatory in nature. It is necessary that certain requirements be placed on these strategies to assure their enforceability. For example, the acquisition of buses for an expanded bus system does not require regulations; however, a development schedule is required in order to insure that the buses are purchased according to schedule. Such a development schedule should provide milestones for implementation which include, at a minimum, the following:

(1) A schedule for obtaining requisite funding.
(2) A schedule for acquisition of necessary right-of-ways.
(3) Dates by which contracts will be let for acquisition of equipment or any necesary construction.
(4) Anticipated completion dates of contracts.

*D.* **Tax Imposition Measures**

*The State transportation plan must include proposed or adopted regulations necessary to effectuate any control measure utilizing tax measures.*

A structure for collection of a tax should be extablished that insures equable treatment for all parties affected by the tax. Thus, a mechanism which determines violators and provides a means to penalize those who evade the tax should be included.

Enforcement procedures are, without a doubt, as vital to the success of a control plan as the strategies themselves. You should, therefore, review these as carefuly as you do each control measure proposed by the State.

F. *Source Surveillance Requirements.*

In line with the requirements for detailed descriptions of enforcement procedures discussed above, the amendments in §51.19(d) require the State to include in its transportion plan—

> Procedures for obtaining and maintaining data on actual emissions reductions acheved as a result of implementing transportation control measures. In the case of measures involving inspection, maintenance, or retrofit, these data shall include the results of an emission surveillance program designed to determine actual average per vehicle emissions reductions attributable to inspection, maintenance and/or retrofit. In the case of measures based on traffic flow changes or reductions in vehicle use, the data shall include observed changes in vehicle miles traveled (VMT) and average speeds. The data shall be maintained in such a way as to facilitate comparison of the planned and actual efficacy of the transportation control measures.

These self-explanatory requirements are very important if the promise of the plan on paper is to be transformed into reality. The plan should specify the monitoring procedures it will employ. The design of the monitoring procedures should be scrutinized to assess their adequacy. Moreover, the operation of these procedures will require continued citizen observation in the future.

G. *Legal Authority.*

The original Guidelines (Sec. 51.11) require the State to submit a detailed description of the legal authority it needs to implement transportation control strategies and to submit a description of how and when this authority will be obtained. Although many States do not presently have the authority to implement particular strategies, lack of authority will not stand as a valid cause for rejecting strategies or for narrowing options for transportion control measures. In the *Federal Register*, May 31, 1972, EPA gave each State a deadline for obtaining the necessary legal authority and for instituting its transportation control program. (See the chart on p. 50.) These deadlines are too lenient and you should press for a tighter schedule.

The Guidelines (§ 51.22) and the amendments [§ 51.14(a)(3)(ii)] require that the plans submitted on February 15, 1973 contain all rules and regulations necessary to carry out the selected transportation control measures. The rules and regulations must be included in proposed form if not already adopted.

H. *Supporting Data Required.*

To allow assessment of the efficacy of particular strategies, in adequately reducing auto emission levels, detailed summaries of air quality data as well as data and computation used



to project reductions that will be achieved by each strategy, must be included in the State plan [Sec. 51.14(c)]. The potential success of your State's program depends on the quality of data underlying its calculation of needed pollution reductions and choice of control strategies. You should review this data in detail.

Of great importance are the figures used by the State to estimate total present and future auto emissions. States rely on the following information to make these estimates: a set of vehicle emission factors consisting of specified average pollution levels in grams per mile for each of the auto model years which are or will be on the road and estimates of the proportion of total vehicle miles traveled (VMT) in the area by each model year. In their submissions to EPA last Janaury many States employed national average figures to estimate their present auto pollution totals and used Appendix I of the Guidelines (which was also based on national average values) to estimate auto emission totals in future years. Since such important factors as vehicle age mix, driving speeds, driving patterns, and growth rates vary significantly from city to city, the amendments to the Guidelines now require the States to employ emission factors and methodology specific to their regions [§51.14(f)]. Unless your State has generated specific data of its own it should use the data and methodology presented in the EPA document *An Interim Report on Motor Vehicle Emission Estimation* (Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, Oct. 1972). Your State should have been sent a copy of this report. Be sure that it has used it to recalculate the needed emissions reductions. It can made a significant difference in estimating the degree of the present problem and predicting the size of the reductions provided by the Federal Motor Vehicle Emission Control Program. (Your EPA Regional Office may be able to provide you with a copy of this report.)

The most important set of supporting data is that used by the States to predict the reductions in emissions attributable to the transportation control measures selected by the State. As discussed in Section VII below, EPA has provided the States with specific estimates of emission reductions which can be expected from inspection-maintenance programs and from use of retrofit devices. The information available on the effectiveness of other transportation control measures such as mass transit improvements and vehicle restraints is considerably less definitive. Appendix M to the amendments specifies the nature of the supporting data which each State must present in each plan to justify assumed reductions resulting from transportation control measures. The Appendix is in six sections.

1) The plan must display total emissions of HC, CO and $NO_x$ from mobile and stationary sources that would occur with and without transportation control measures. The Appendix specifies that emissions levels must be included for each region or subregion, and for each time period that is used in the State's original model to determine air quality levels. The Appendix includes a model format which should be followed to display the data (See Table 1).

2) Where a strategy to reduce emissions relies on distinctions between trip types or vehicle types, the Appendix requires a comparison of emission levels resulting from each trip type and vehicle type. For example, in many urban areas the emissions from heavy vehicles (trucks) are a significant proportion of the total air pollution problem. So if a control strategy is devised to reduce emissions specifically from one type of motor vehicle, the plan should describe the average emissions and VMT for trucks and cars that would occur with and without the controls.

Similarly, a strategy may attempt to reduce peak hour emissions by focusing on restricting commuter (early morning) traffic, or, if thru traffic is a substantial contributor to high pollution concentrations, a particular strategy might affect that type of trip alone. In any case where the control measure applies to a particular trip-type as opposed to all vehicle trips, then an appropriate comparison of the emissions to be expected from each trip-type with and without application of the control must be included in the plan. See Table 2 for EPA's model format.

3) Where the plan includes strategies that alter traffic flow, the emissions occuring with and without imposition of the controls should be described, as well as the average speeds and vehicle miles traveled according to roadway type.

## TABLE 1

**Emissions***

| | | Mobile | | Stationary | |
|---|---|---|---|---|---|
| | | With Transportation Control Measures | Without Transportation Control Measures | With Transportation Control Measures | Without Transportation Control Measures |
| Time period 1 | Sub region 1<br>Sub region 2<br>"<br>"<br>" | | | | |
| Time period 2 | Sub region 1<br>Sub region 2<br>"<br>"<br>" | | | | |
| Other time period as needed | Sub region 1<br>Sub region 2<br>" | | | | |

*Indicate Pollutant.



## TABLE 2

Sub region _____

Time period _____

Emissions* (or VMT or Speeds)+

| | | Vehicle Type 1 | | Vehicle Type 2 | | Continue with other Vehicle Types as appropriate |
|---|---|---|---|---|---|---|
| Trip Type | Roadway Type | With Transportation Control Measures | Without Transportation Control Measures | With Transportation Control Measures | Without Transportation Control Measures | |
| Work | Freeway<br>Arterial<br>Collector<br>Local | | | | | |
| Shopping | Freeway<br>Arterial<br>Collector<br>Local | | | | | |

Continue with other trip types as appropriate.

* Indicate pollutant.

+ The table need contain only those entries appropriate to the transportation control measures included in the plan.

For instance, any measure undertaken to reduce overall emissions by relieving congestion, i.e. increasing the average speeds, (such as one-way streets, light synchronization, reversible lanes, or construction of additional lanes) must describe the changes occuring in the average speed and VMT as well as the changes in emissions broken down by roadway type for every region, subregion and time period covered by the plan. Table 2 sets forth EPA's model display of this information. This breakdown is particularly important in the case of traffic flow strategies since it facilitates evaluation of how the effects of speeding traffic flow in one area affect other roadways in the area. One-way streets, for instance, may increase average speeds on a main artery but may increase the congestion, hence emissions, on the intersecting streets.

4) The last category of control measures referred to in Appendix M is the class of strategies that depend on *voluntary* public response for their effectiveness. This includes measures such as increased charges or taxes for auto registration, increased parking fees, instituting toll roads, increasing tolls on roads and bridges, or a wide range of incentives and disincentives offered to discourage auto use or alter the travel frequency, mode, time of day, or "other characteristics of auto demand". Where this type of strategy is proposed, the plan must also include the demand elasticities "or other appropriate quantitative measures" of public response to the incentives or disincentives and discuss which elasticities were used to project the amount of emission reduction.

The last two sections of Appendix M refer to items 1 through 4 above and require that the sources of all traffic data used to evaluate the effects of the proposed transportation control measures on air quality must be described and that the assumptions, judgments and computations underlying the conclusions 1 through 4 should be summarized.

The last paragraph of Appendix M states that:

> A transportation control plan that fails to include any element of data required by this Appendix will be acceptable only if the plan presents the data and analytic procedures used to estimate the effects on air quality of the selected transportation control measures and provides adequate justification for the use of such data and procedures.

This paragraph recognizes the possibility that some of the desired data simply may not be available. The recognition should not be read as diluting the general requirements of the guidelines that the predicted emission reduction potential of each control measure must be adequately documentd. The few plans NRDC has seen to date generally ignore the documentation requirements of Appendix M. The public has a right to know the basis for the plan's conclusions and you should insist that the data be made available in the format required by Appendix M. If your State does not include this data summary in its plan before submission to EPA, you may follow up by requesting your EPA Regional Office to require the State to compile and submit this data. Full disclosure at an early stage of the plan's assumptions will enable glaring errors in data and methodology to be corrected now.

### I. *Nondegradation*

One important concept not presently incorporated in the amendments is the principle of nondegradation. Nondegradation means, simply, that in areas of the country where the air is purer than the concentrations established by the national standards, no deterioration should be allowed.

Without effective legislation to prohibit degradation of the existing air quality, polluters are effectively given free rein to contaminate those regions of "pure" air. There is little defense for a national policy that would allow such deterioration since it presumes that—

> (1) the national standards are above question and accurately reflect air quality levels considered safe for the present and future;
>
> (2) clean air is a commodity, like coal or oil, which can be depleted up to the limits currently established by law.



The first assumption does not take into account the gaps in our knowledge regarding what are the minimum damaging levels of pollutants. It ignores the likelihood that future research may uncover evidence of hazardous effects from exposure to pollutants at levels lower than our present standards. Congress has acknowledged this likelihood and made provisions in the Clean Air Act for the national standards to be revised when new evidence develops.

The second assumption ignores the fact that the rights which attach to private property do not apply to the air we breathe; air resources are in the public domain. It is inconsistent with the values the Clean Air Act seeks to protect that the setting of federal standards should be construed as a license permitting the destruction of the public trust of pure air.

A fierce battle has been waged over this issue; first in Congress and later within the White House Office of Management and Budget. The controversy is now before the Supreme Court. Pending a decision on whether to hear the case, the Court has stayed a U.S. Court of Appeals ruling which ordered EPA to promulgate regulations prohibiting any further significant degradation of existing air quality. Accordingly, at this time it has not been decided whether States must follow the nondegradation principle. They undeniably have the *right* to prevent significant deterioration. The States should be urged not to wait for the Supreme Court's decision. Rather they should adopt nondegradation regulations now.

As applied to transportation control measures this would mean the avoidance of strategies which do not reduce total vehicle pollution but simply spread it over greater areas or longer periods of time.

## VII. DISCUSSION OF ALTERNATIVE TRANSPORTATION CONTROL MEASURES

The discussion which follows describes a variety of available transportation control measures. They include a set of measures with *traffic reduction* potential and a set of measures with the potential for *reducing individual vehicle emissions*. Most States are placing major reliance on the reductions promised by the new car emission controls of the Federal Motor Vehicle Emission Control Program. This section indicates that this degree of reliance is unfortunate and that traffic reduction measures consisting of combined transit improvement and vehicle restraint programs should be the keystone of the transportation control strategies.

### A. *Transit Improvements*

By any standard—environmental, social, or economic—improving public transportation is the most desirable solution to the problems of private auto use in the city. It is certainly the only viable solution for the long run when the sheer magnitude of person trips made will preclude "driving into town" as we do today. Planning for long range alternative transportation systems should be instituted now. Remind your local air pollution and transportation officials that such planning is an essential component of their duty to see that air quality standards are maintained in the future.

For purposes of *achieving* the standards in the next three years, there are numerous measures, easily implemented, and at relatively low costs, which can contribute to significant reductions in motor vehicle pollution. Crucial to the success of transit improvement measures in reducing air pollution (by shifting trips from autos to a public mode) are the simultaneous imposition of measures to restrict or restrain automobile use. For purposes of air pollution reduction, transit improvements and vehicle restraints must be considered in tandem.

Readily available short-term transit improvements include the following:

—improving service of existing rail systems

—increasing bus service, expanding areas reached, increasing frequency of service, providing express bus services, direct service to stadiums, coliseums, shopping mails

—reducing travel time for mass transit vehicles with exclusive bus lanes, priority traffic feeding techniques, tightly enforced bus loading zones, etc.

—reducing transit fares

—introducing jitneys and low-fare shared cabs

—providing demand-responsive systems

—car pooling.

Almost all of these measures have received limited application in cities across the country with varying degrees of success. However, these measures have not been applied concurrently with motor vehicle restraints. Accordingly, they have not enjoyed their full potential. A good-faith effort by the State to couple increased transit service with disincentives to private auto use will be considerably more successful in reducing emissions than experiments to date.

*Service improvements.* The expansion of transit services is probably the most effective means for increasing patronage and effecting a reduction in private automobile trips. By adding buses to those already operating, routes can be expanded, headway (time between buses) can be reduced and comfort increased. Information systems can be greatly improved. Today it is quite inconvenient for potential riders in most cities to find out how to get from point A to point B by bus. Imaginative marketing techniques should be applied to make bus riding attractive. Installation of passenger shelters at appropriate locations will increase the attractiveness of the system. However, the most important service improvement is reduction of travel time.

*Travel time reductions.* One of the easiest ways to reduce bus travel time is to remove the bus from the congestion caused by the auto. Reserving lanes for exclusive or preferential bus use accomplishes this. The most recent efforts have been geared to attracting the peak-hour commuter. Several cities now run express buses from the suburbs on exclusive bus lanes—significantly cutting the travel time to work. For instance, in New York City, a reversible bus-lane was opened on the last two miles of the Long Island Expressway which enabled buses to reach the tunnel into the city in 3-1/2 minutes while passenger cars averaged 18 minutes to cover the last two miles. In Washington, D.C., buses traveling on exclusive lanes on the Shirley highway reach the Washington business district 30 minutes faster than the average auto commuter. In San Francisco, a new bus line was established to carry Marin County commuters into the city center. As a result, total bus ridership across the Golden Gate Bridge increased 35% and officials determined that vehicle traffic across the bridge decreased by 6%—resulting in 1,000 fewer cars crossing during peak hours. This bus also provides faster service than an auto, since automobile traffic is slowed or stopped at the toll booths, while the buses speed past in their own lanes. Other cities with operating or planned exclusive express busways are Seattle (the "Blue Streak"), Boston (from Quincy to Boston), Los Angeles (between El Monte and L.A.), Pittsburgh, and Milwaukee.[20] The transportation control plan which will shortly be recommended by the District of Columbia Regional Air Quality Planning Committee includes a total of nine new busways to serve the region.

Busways are likely to be more effective if they are converted from existing vehicle lanes. A busway with buses moving rapidly past an adjacent line of crawling automobiles is a free advertisement for the benefits of switching from the car. In addition, such a busway is also a vehicle restraint, since it removes from general use a lane previously available to autos. Some critics of busways say that not enough buses use the lane to justify setting the lane aside for their exclusive use. However, this misses the point. A bus lane is *capable* of carrying many more passengers per hour than an automobile lane. If it is underused at present, this simply indicates that habits are slow to change. However, the exclusive busway is a tool to change those habits. When the change occurs, the roadway will have a much greater carrying capacity.

Exclusive bus lanes need not be limited to commuter arteries. Central business district lanes may also be reserved to encourage more in-town bus riding. New York City and Philadelphia are among the cities employing this technique.

[20] Institute of Public Administration, *Evaluating Transportation Controls to Reduce Motor Vehicle Emissions in Major Metropolitan Areas*, p. 5–9, n. 1 (Interim Report, March 16, 1972). (Hereafter cited as IPA Study.)



Buses can be given priority by such techniques as limiting certain highway entry and exit ramps to buses and installing sensors in the roadway which will trip traffic signals for approaching buses. The District of Columbia will shortly undertake a project of the latter type.

Another approach to moving the commuter out of the auto into the bus is the "park 'n ride" facility. The suburban commuter drives to a parking facility on the periphery of the city or the central business district and takes a bus for the last leg of the trip into town. Although this measure may provide immediate relief for heavily congested streets in the business district, it has distinct drawbacks and should be considered second choice to actually extending bus services into the suburbs. The "park 'n ride facility" or "fringe parking" still relies on private auto use; and requires that the commuter have exclusive use of an auto, since the car sits idle in the parking lot during the day. Furthermore, large-scale use of these facilites would require large parking areas—which may well increase the congestion and pollution levels on the streets approaching the parking lot during the rush hours when hundreds of automobiles converge on one spot.

*Fare reductions.* In the past, transportation officials have assumed that transit patronage is inelastic, i.e. that changes in fares will not reduce or increase the number of riders. However, recent experience contradicts this assumption. In Atlanta last year, a reduction in bus fares from 40¢ to 15¢ resulted in a 29% increase in ridership. There was no increase in services and no advertisement of the reduction. Patronage is expected to jump even higher next year with the addition of 135 new buses and a promotional campaign. On the opposite end of the scale, an *increase* in transit fares can cause substantial reductions in ridership—moving more citizens into their automobiles. In New York City, the latest 5¢ increase in subway and bus fares resulted in the loss of 54 million riders annually, which represents 21,000 more cars per day in the city during peak hours, and amounts to a 15% increase in carbon monoxide levels.[21]

In an effort to supplement mass transit services and minimize dependence on the private automobile, some type of low-cost door-to-door service should be implemented in auto-choked urban areas. Jitney cabs (a system of shared cabs) are an effective means to provide this convenience in the central business district. The cabs travel continuously along the main streets, picking up and unloading passengers at any point along their route. The jitney combines the convenience of the regular taxi with the advantage of low fares—and is ultimately more efficient in terms of fuel consumption and emissions due to the increased occupancy rate. In cities like Istanbul, shared taxis supply a very large percentage of the citizens' trip-demands cheaply and quickly. This service prevailed in many U.S. cities during World War II when fuel was at a premium—it would be sensible to reinstate the system now that clean air is at a premium.

To serve areas outside the city center, various demand-responsive "limousine" or minibus services could be initiated. These provide fast service and door-to-door transportation but at lower costs than taxi service. These systems, sometimes called "dial-a-ride", are set up for speedy service but can be dispatched to cover a number of customers in one area or along a route without undue delays. Two such systems are currently being funded by the U.S. Department of Transportation's Urban Mass Transportation Administration.[22]

*Car pooling.* Increasing the ridership per automobile can effect a major reduction in vehicles on the road. The present auto occupancy rate into Los Angeles is down to 1.1 persons per car. This obviously represents a horrendous underutilization of resources. Two things are essential to the success of a program to increase car pooling: convenience and "necessity." Present-day computer information services should be able to maximize convenience. Car pooling can be made much less rigid than in the past. For example, while a rider may have a regular riding arrangement provided by a computer information bank, if, on occasion he wishes to leave work later, he should be able to telephone the computer, inform it of his special needs, and receive a name of a driver leaving for his neighborhood at the desired time. For such a system to work, the computer bank must be large enough to supply drivers

[21] Interview with Brian Ketcham, Air Resources Board, New York City, December 6, 1972.

[22] *IPA Study*, *supra* n. 20 at p. 5–40.

to a variety of destinations at a variety of times. This can be best accomplished by combining all offices within, say, a two-three block square in a single bank.

Incentives can also assist car pooling. Employers might provide bonus fringe benefits to car poolers; for example, car poolers might be made eligible to participate in a drawing for hard-to-get tickets to popular sports events. However, for substantial increases in car pooling, disincentives or restrictions on low-occupancy driving must be created. As discussed below, these may include higher parking fees, restricted parking, or other measures.

Finally, it is important to eliminate those aspects of a city's transit system that work against its success. A viable transit system should:

—provide for free transfer between different lines, or services; a single-trip/single fare concept

—provide service at low enough cost to become an economically attractive alternative

—provide frequent service to avoid waits of more than 5 to 10 minutes

—provide supplementary systems for door-to-door service

—provide service that does *not* require an automobile trip to reach the "pick-up" point.

Depending on the particular problems and transportation patterns of your community, any number of low-cost immediately available transit services may be practicable. As the nation's cities become crippled by automobile traffic and pollution, citizens must look to sound and imaginative transit systems that maximize convenience to the passenger, reduce travel time, and are available at low cost to the public.

Your community may need financial assistance to develop these systems. The Urban Mass Transportation Administration (UMTA) has been created by Congress for this purpose. You should urge your city to be aggressive in making grant applications to UMTA, for the funds are limited.

B. *Motor Vehicle Restraints*

As emphasized in the discussion above, vehicle restraints are an essential complement to transit improvements. They are also essential in their own right. In most cities plagued by automobile pollution, measures to curb the emissions per vehicle cannot bring about the necessary reductions for meeting national air quality standards. Steps must be taken to reduce the number of autos *entering* the city each day—either through outright bans on auto travel or by imposing a series of "disincentives" to auto use. The imposition of motor vehicle restraints may require some sacrifice on the part of the public—but by combining restraints with increased transit service, the inconvenience can be minimized and the adjustment to new travel modes made easy.

The most direct restraint is to prohibit private auto travel in the city or the central business district (CBD). Although the directness of the approach may stun many motorists, banning auto traffic should not be rejected out of hand. Consider that within the CBD in most cities, the average auto trip is 1/2 to 3/4 of a mile—distances easily accommodated by foot or bicycle. Within a larger area, increased cab or bus service can replace individual auto trips; and distances from home to city can be served by bus or rail transit.

In many instances an auto ban is the most practicable, the easiest to implement, and the least disruptive of all effective control strategies. It is a low-cost solution to drastically reducing emission levels on city streets; it requires, quite simply, an increase in transit facilities and low-cost cab or minibus services to eliminate the need for private automobiles.

It must be pointed out that the potential of this measure for *region-wide* air pollution reduction is low unless the zone of the ban is quite large. However, vehicle-free zones also serve as a showcase for the autoless urban environment and thus offer benefits beyond air pollution reduction. Automobile bans on downtown streets to control air pollution offer the added advantages of increasing space for humans, lowering noise levels, and eliminating injuries and fatalities sustained in auto accidents. Citizens are reminded that urban communities were formed for people and not machines.



More and more European cities have turned to auto-free zones, and recent studies of 70 cities where automobile bans were instituted found no serious drawbacks to the program. The impact on the economic fiber of the cities was negligible. There was no evidence of losses in retail sales—and in some cases auto-free pedestrian malls may generate increased commerce and sales.[23] Among the European cities which initiated some form of auto bans, Gothenburg, Sweden reported that after only one year the circulation on streets in the CBD was cut in half; carbon monoxide levels were cut from 30 ppm to less than 5 ppm; noise levels dropped by 50%; and there was a 5% reduction in accidents.

A number of additional disincentives exist to reduce auto traffic:

(1) increasing parking fees, eliminating on-street parking, reducing off-street parking facilities, prohibiting further construction of parking facilities

(2) taxing road use

(3) imposing or increasing tolls on bridges and roadways entering the city

(4) rationing gasoline

(5) initiating emissions tax.

Increasing the cost of parking and reducing the numbers of spaces available can be an effective means of discouraging private auto use. Parking is a prime target for regulation since current practice is both uneconomical and inequitable. Consider, first, that an individual commuter makes a $3,000 to $5,000 investment in a 2,000-pound machine capable of speeds up to 100 mph that sits idle during most of the day and incurs a direct cost to the owner for renting the space.

Second, this practice incurs additional costs to the city itself—space lost to parking that would otherwise accommodate offices, apartments, or recreation areas and the concomitant loss in property tax revenues that could be collected on developed real estate. Haphazard planning practices in our cities have led to a public policy of subsidizing parking costs—a subsidy denied to the pedestrian and mass transit user and one that generates additional hazards and annoyances for this segment of the population. The subsidy arises from the numerous on- and off-street parking facilities provided by local governments at nominal fees and from lax enforcement of existing parking regulations. Although there are no firm estimates of the total dollar cost incurred by municipalities to provide parking space, we do know that in major cities over half of the automobile users park free. In New York City alone, 45% of the cars parked on the street are illegally parked, yet fewer than 1% are ever ticketed. In the meantime, cities continue to expand parking facilities and privileges. Even in Manhattan with its dire congestion problems, parking space continues to grow at a rate of 3% a year. Besides encouraging auto trips into the city, which increases the air pollution levels, low-cost on-street parking also hampers pedestrian movement, blocks vision of on-coming traffic, ties up bus loading zones, and makes street cleaning an impossibility. Another disturbing consequence of providing parking facilities in the CBD is the amount of auto pollution directly attributable to motorists' trips searching for parking space. In New York City 7% of the total daily auto traffic consists of cars searching for parking space.[24]

There are various means to regulate parking to reduce auto emissions. Several cities are considering the imposition of a parking tax levied on all public parking facilities. The tax must be at a rate high enough to discourage using an automobile in the city—particularly in the case of commuter work trips and all-day parking. Present pricing favors the commuter by charging reduced rates for weekly or monthly all-day parking privileges—while charging substantially higher rates for hour-by-hour parking. The municipality should poll the public for its response to higher parking fees to determine the level where it becomes economically impractical for the individual to drive into the city. In most cases this probably means doubling or tripling

[23] Bremen, West Germany initiated traffic bans in 1960. Since that time the city has reported that business and commerce have prospered and the city center remains the principal focus of activity and attraction. *Automotive Air Pollution and Noise: Implications for Public Policy*, Organization for Economic Cooperation and Development, Paris (October, 1972) p. V-9.

[24] *Manhattan Auto Study*, *supra* n. 3, (draft)

present rates. This measure has an added advantage of providing increased public revenues for supporting mass transit improvements.

Regulation may be more difficult in the case of private parking facilities provided by employers and private clubs. In these cases local zoning ordinances could be introduced to restrict their use and to prohibit further construction of both private and public parking garages or lots. In addition, on-street parking should be abandoned.

In some cities, households may attempt to avoid higher parking rates by one member of the household driving the other to his or her place of business and then returning home with the car. If widespread, this practice would effectively double vehicle miles traveled during commuting hours since the commuter car would be making *two* home-work round trips daily. Accordingly, cities must accompany parking restriction programs with procedures to monitor vehicle miles traveled and be prepared to take steps to eliminate this "drop-off" pattern.

Another measure for reducing automobile trips is by taxing road use and introducing or increasing tolls on bridges, and freeways entering the city. Although this concept for regulating private vehicle use has received limited study and application, it has been tossed around in planning circles for some time. When, in 1961, a federal study of transportation problems first introduced the idea of road pricing, a supporting agency refused to release the report. But by the late sixties, then Secretary of Transportation, John Volpe, acknowledged the dilemma of increasing private auto use and the need for curbs in a speech to an international conference on urban transportation.[25] Within two years, legislation was introduced into the House of Representatives to allow cities with populations over 200,000 to collect tolls and user fees on freeways. Recent cost analyses estimate that roadway maintenance and policing costs 10¢ to 20¢ more per vehicle mile than is presently collected in special taxes and registration fees.[26] Further examination indicates that imposing road taxes in this range (10¢ to 20¢ per mile) could reduce total traffic volumes as much as 20% to 30%.[27]

Increasing tolls on bridges and freeways or allowing free passage to mass transit carriers or carpools is also effective means of reducing traffic. In San Francisco, last year, exclusive lanes across the Oakland Bay Bridge were established for carpools and buses; these vehicles were also exempted from the 40¢ toll. Within a week, the number of carpools doubled from 1,000 to 2,000 cars.

The other area for regulating motor vehicle use is by regulating or taxing the actual number of miles driven per vehicle: through gasoline rationing, or an emissions tax. Gasoline rationing is not a new concept and could be implemented through a system of coupons, similar to the program developed during World War II. It is an approach with some merit, considering that gasoline consumption has been increasing four to five per cent each year. If consumption continues at those levels, the reductions in emissions gained through improved control devices will be significantly offset in the next 15 or 20 years. Furthermore, regulation of gasoline consumption may be justified on grounds of the "energy crisis" facing the United States. National policy makers are already grappling with the problems of limited petroleum resources in the country and the economic and trade problems arising from our shortages.

Under an emissions tax system, motor vehicles would be subject to periodic odometer readings, and a tax levied on the basis of the average emissions of HC and $NO_x$ per mile for that model year. For example, a tax is established at 15¢ per gram of pollutant; the average emissions rate for a 1972 model auto is 4.5 grams of HC and $NO_x$; if the car accumulated 15,000 miles during the year, the annual tax would be $101.25. The emissions tax offers the advantage of tying the costs of auto-use more closely to the real costs in terms of the environment. Some means of relating the tax to miles traveled in highly polluted areas would be valuable.

[25] See n. 33 *infra* and accompanying text.

[26] *Manhattan Auto Study*, *supra* n. 3 at p. 3.

[27] *HPA Study*, *supra* n. 20 at p. F-3.



Both approaches are direct and effective in terms of limiting automobile use—but they may be the least popular approaches in the eyes of the public. Nonetheless, they constitute viable programs for reducing emissions—in many ways allowing more freedom to the motorist than other forms of vehicle restraints. And the apparatus for implementing and enforcing the programs is not as extensive as one might think. For instance, if a State is considering an inspection program, then provisions for odometer reading and collecting emissions taxes could be incorporated in the plan—using the same personnel and the same facilities.

A final type of motor vehicle restraint is the regulation of goods movement, i.e. trucks. In some of our major cities, trucks passing through or making deliveries are a major contributor to the existing pollution levels. In downtown Manhattan, perhaps the worst case, approximately 60% of the total CO, $NO_x$, and HC emissions are attributable to heavy-duty vehicles, most of which are delivery trucks.[28]

There are a number of ways to tackle the problem. First, measures should be taken to route through truck-traffic around the city center. Secondly, truck delivery hours should be regulated. Presently, truck deliveries occur during normal business hours—contributing not only their heavy emissions to the overall pollution levels, but seriously tying up traffic, in many cases actually blocking streets, generating increased emissions from all types of motor vehicles. The alternative is to require deliveries during evening or early morning hours. In Germany, where 28 cities have imposed some type of motor vehicle restraints, most of these cities also imposed a ban on commercial deliveries during the hours of 10 a.m. to 8 p.m. The third means to reduce truck emissions is by insuring that each truck is filled to capacity. Studies in New York City have found that on the average, city trucks are operating at less than 10% of their capacity.[29] Cities where the truck population is a significant proportion of the total traffic could consider terminals located outside the city where goods are transferred perhaps to smaller less polluting fleets—but, in any case, to delivery fleets filled to capacity.

It should be emphasized that the need for vehicle restraints is not an unforeseen consequence of the Clean Air Amendments of 1970. In passing this legislation, Congress clearly established its intention that reforms in our urban transportation patterns would have to be effected. In repeated public statements, the legislators expressed their judgment that a change in our present reliance on the automobile would be necessary to solve the problem of air pollution as well as to resolve other hazards of increasing auto use. The Report of the Senate Committee on Public Works on the Clean Air Amendments of 1970 indicates that Congress understood the measures that would have to be taken in major cities and approved these measures for the sake of public health:

> Transportation policies must be developed or improved to assure that the impact of pollution from existing moving sources is reduced to the minimum compatible with the needs of each region. Construction of urban highways and freeways may be required to take second place to rapid and mass transit and other public transportation systems. Central city use of motor vehicles may have to be restricted.[30]

The legislators also were adamant that national air quality standards be met within three years—by applying transportation restrictions if the control technoloty were not available or sufficient:

> The bill recognizes that a generation—or ten years' production—of motor vehicles will be required to meet the proposed standards. During that time *as much as 75% of the traffic may have to be restricted in certain large metropolitan areas* if health standards are to be achieved within the time required by this bill. . .[31]

[28] *New York City Implementation Plan*, Table 3-4 (January, 1972).

[29] *Id.*, p. 7.

[30] Report No. 91-1196, 91st Congress, 2d Sess., *Report of the Comm. on Public Works*, Sept. 17, 1970, p. 2.

[31] *Id.*, p. 2 (emphasis added).

The Committee further clarified its position in a statement that public policy would have to bend to the existing air pollution crisis—by developing transportation systems to reduce emissions where gadgetry fails:

> The Committee recognizes that during the next several years, the attainment of required ambient air quality in many of the metropolitan regions of this country will be impossible if the control of pollution from moving sources depends solely on emission controls. The Committee does not intend that these areas be exempt from meeting the standards. Some regions may have to establish new transportation control regulations and restrictions in order to achieve ambient air quality standards for pollution agents associated with moving sources.
>
> The Committee realizes that changes or restrictions in transportation systems may impose severe hardship on municipalities and States, and it urges that agencies of the Federal Government make available any relevant program assistance to the States and regions to meet these obligations. The highway program, various housing and urban development programs and other sources of assistance should be examined in this connection.[32]

Although opponents of a change in present transportation patterns have criticized Congress' legislation in this area and labeled it unreasonable, these critics cannot so easily dismiss the statements of the former Secretary of Transportation, John Volpe. Sec. Volpe spoke to the issue of private automobile use in his first major policy statement in 1969:

> America must now accept the fact that the private automobile will not forever be the absolute monarch of our core cities. How and when this change will come about, we cannot yet say. But the means are not altogether obscure. We could make mass transit so attractive that habitual drivers would leave the highways. Some are convinced that dial-a-bus and other personalized modes will provide a breakthrough. We could tax cars entering the city in order to pay for police services, traffic control, parking, road repairs, and so on.
>
> More and more, the hallowed right to jump into our cars and drive them anywhere we please is being tallied against other community and individual values—the need for elbow room, clean air, stable neighborhoods, more parkland, and many others. So far, we have sought sheer mobility above every other consideration; other needs have been neglected, and the social equation is clearly out of balance.[33]

More recently, the Environmental Protection Agency Administrator, William Ruckelshaus, tossed out his ideas for reducing private automobile use at a meeting of a major automobile lobbying group, the American Automobile Association. He contended that any organization that promotes automobile travel and its conveniences must also address itself to resolving the environmental hazards the automobile creates. He remarked that if we want to preserve the automobile as an intimate part of national life then we must develop more comprehensive transportation systems, which would reduce our reliance on the auto for work and business and enhance its potential for recreation and leisure purposes. In his words:

> . . . The public must gird itself for the possibility of substantial changes in communication habits . . . . It is the very popularity of the automobile that now seriously threatens its usefulness. In many of our cities, we are confronted by pollution, congestion, noise, delay, ugliness, and urban breakdown on a scale that has not been seen since the last days of imperial Rome. . . .

[32] *Id*., p. 13.

[33] Proceedings, Fourth International Conference on Urban Transportation, Pittsburgh, Pennsylvania (March 10, 11, 12, 1969) cosponsored by the Pittsburgh Urban Transit Council and the U.S. Department of Transportation. Keynote Address by the Honorable John A. Volpe, Secretary, U.S. Department of Transportation, p. 8.



> It seems clear that we will have to be more imaginative in our design and use of the automobile if we are to insure the amenities of civilized living and keep that instant mobility we all want.[34]

C. *Complex Sources Regulation*

Another control measure which complements transit improvements and vehicle restraints is the regulation of "complex sources." Complex sources are facilities such as shopping centers, stadiums, arenas, housing projects, highways, or other facilities which attract large numbers of motor vehicles, resulting in increased levels of air pollution. Despite the obscure terminology, a complex source is hardly an obscure phenomenon. The prosperity of the last decade brought with it rapid construction of mammoth shopping malls, coliseums and sports arenas, high-rise apartments, etc., each largely unserved by public transport and surrounded by acres of parking space. In downtown areas, large parking garages are continually opening. Indeed, recent policy in some cities has been to require a minimum number of off-street parking spaces to be provided by each new office building.

The trend from now on will be to view such facilities as a "source" of pollution in view of their traffic generating potential. Construction of these facilities must be regulated if future traffic growth is to be controlled. The most effective complex source regulation is one which requires a builder to apply for a permit before constructing a new facility. To receive a permit, the builder must show that pollution, *including pollution from attracted traffic*, from his facility will not interfere with the attainment and maintenance of air quality standards (or will not significantly degrade existing air quality).

The long-term effect of this regulation on metropolitan area planning can be very great. If properly enforced, it can mean that developers will have to ensure that a truly balanced transportation system is provided for access to all major new buildings. The reliance of the past and present on thousands of automobiles to get people to their destination no longer will be permitted. As a result, this type of regulation will itself be a major source of pressure for the development of long-range alternative transportation systems.

Moreover, if the non-degradation policy is applied to complex sources, it can mean a new economic vitality for the center city. Presently, those suburbs which still have clean air can offer developers something the center city lacks: large areas for free parking. If the suburbs are no longer permitted to ignore the effects of this development on their air quality, then the center city will be returned to a more even footing and the developer will be denied a haven for irresponsible development.

Your State may contend that a complex source regulation is not necessary in the plan now, arguing that it will not reduce emissions by 1975 or 1977. In response: first, insofar as the regulation prevents traffic growth and congestion which otherwise would occur over the next three to five years, it does effectively reduce emissions. Second, the city cannot effectively implement other transportation control measures designed to affect vehicle miles traveled and traffic patterns unless it has authority to regulate new building which will influence these factors. Third, the State has a legal duty to include measures in its plan *now*, necessary to insure that air quality standards are maintained in the future. The complex source regulation is a maintenance measure that can be implemented now without further study.

D. *Federal Motor Vehicle Emission Control Program*

Under §202 of the Clean Air Act, EPA sets emission standards for all new motor vehicles sold in the U.S. On paper, this new car emission control program results in impressive reductions in pollutants, particularly after 1975, when cars equipped with emission controls reducing hydrocarbons (HC) and carbon monoxide (CO) emissions by 90% from 1970 model year levels are scheduled to be on the road. [Similarly reduced nitrogen oxide ($NO_x$) emissions are scheduled for 1976 model year cars.] As a result, State air pollution planners are assuming substantial reductions in these pollution levels due to this program.

[34] Speech to the American Automobile Association, Detroit, Michigan, September 13, 1972.

"At this writing, however, it is by no means clear that appropriate exhaust control systems will be available to meet the deadline imposed by Congress. Furthermore, even if exhaust control systems are developed by the deadline to meet new car emission standards, these systems may be highly unreliable. These inherent uncertainties as to the availability and reliability of new systems argue strongly for *contingency planning*, an argument that is reinforced by other considerations. For example, it may well be that the increased cost of a vehicle arising from pollution control and safety equipment will discourage the replacement of old vehicles. Also, it should be realized that as Americans depend increasingly upon the automobile as a way of life, more and more vehicles are going to be in circulation."

Institute of Public Administration, *Evaluating Transportation Controls to Reduce Motor Vehicle Emissions in Major Metropolitan Areas* at p. 6 (Interim Report, March 16, 1972). (Final Report, Nov. 20, 1972 available from EPA, Air Pollution Technical Information Center, Res. Triangle Park, N.C.)

This dependence on the federal program, if it persists, undoubtedly will be one of t major failings of the State Implementation Plans. The difficulty with this reliance rests in t States' assumptions. They assume that the federal new car standards will be met on schedu by the 1975 and 1976 model year autos. They assume that deterioration of the advanc emission control systems will not be excessive. They assume that the procedures used certify new cars as complying with the standards are accurate indicators of on-the-road pe formance. They assume that the roll-back model used to calculate needed reductions in em sions is sufficiently accurate so that selection of contingency control measures is not nec sary. Each of these assumptions is very tenuous.

While EPA has determined that the technology exists to meet the 1975 HC and C emission standards on schedule, there is no assurance that this will occur. The auto indust continues to fight a war of attrition against this goal. They have appealed to the courts for year's delay in the standards. They can apply again to EPA for a similar delay. They are like to apply to EPA for a year's delay in meeting the 1976 $NO_x$ standard as well. If either these delays is granted, the reductions promised by the federal program will be significant diminished.

Even if these cars meet the deadlines, few experts have any faith that they will contin as low emitters for the periods officially projected. Deterioration in performance over time expected to be a major problem for the catalytic emission control devices on 1975-76 vehicle These catalysts may be subject to breakup or deactivation, in which case the emissions c increase by as much as a factor of 9. EPA's deterioration factors assume only a three-fo emission increase after the car is five years old.[35]

This deterioration assumption is made in the face of EPA's recent proposals that catalys may need to be replaced entirely after the equivalent of only two and one-half years of us These proposals permit manufacturers to perform major maintenance on or even replace t emission control devices on the cars they use to pass EPA certification tests.[36] There is r assurance that owners of these vehicles will perform this maintenance as conscientiously Detroit's engineers. If they don't, then the cars' emissions will increase. When this occurs, t total emissions reductions predicted for the federal program will not be achieved.

Recently EPA has accused major automakers of installing devices to "defeat" their emi sion control systems under a variety of conditions. If EPA is correct in its assertions that the devices have the effect of increasing emissions, then there are millions of cars now on the roa

[35]EPA, *An Interim Report on Motor Vehicle Emission Estimation*, Table 9 (October, 1972).

[36]37 *Fed. Reg.* 23778 (November 8, 1972).



In illustrating the need for transportation control measures other than exhaust controls in implementation plans, Dr. Ronald A. Venezia, Chief of EPA's Land Use Planning Branch, surveyed the pitfalls in predicting reductions from the federal emission control program:

> Taken singly or in combination, the possible errors can be described as follows: The Federal exhaust test procedure has been modified several times to measure auto emissions more accurately. The driving cycle that is based on an average route speed has been adjusted to simulate the average urban driving pattern more closely. But experts recognize that "conditions to which an emission-control system would be exposed by the driving public are more variable and extreme than those to which it would be exposed during the emission test." Therefore, exhaust device deterioration and emissions are likely to be greater than presently calculated. How much greater can only be determined after 1975 and then only if the "spatial and temporal distribution of actual route speeds and idling times" is known.
>
> There are uncertainties about the exhaust control device relating to its deterioration rate, additional research into catalysts and manufacturing lead times, in addition to the administrative problems of mandatory inspection.
>
> Projected urban VMT can vary from city to city. It was assumed that VMT/vehicle would remain constant at an average of 9800 miles/year/vehicle. The average annual mileages of various model year cars according to Bostich and Greenbalgh varies from 13,200 miles for cars less than 1 year old to 5,700 miles for cars 10 to 11 years old.
>
> In areas of increasing urban sprawl and of populaces with increasing leisure time, it has been noted that persons make more and longer trips. Apparently, the improved highway systems required to service urban areas stimulate a latent trip demand. Because traveling is easier and quicker, people travel longer distances more frequently. VMT/year may also increase at a rate greater than presently calculated if total area vehicle populations grow more rapidly than expected.

Venezia, R.A. "The Implications for Transportation of New Federal Air Pollution Controls," at pp. 18-19 (notes omitted).

which are emitting higher levels of pollutants than they are supposed to under the federal program. Again this causes a shortfall in the achieved total emissions reductions—no one knows by how much to date.

For all these reasons, it would be prudent for States to use more conservative estimates of the emission reductions attributable to the federal emissions control program than the predictions provided by EPA. However, most States are taking every bit of credit possible for federal program reductions. You should remind your State that it is its duty under the law to *insure* that the standards are achieved and that this can best be accomplished by planning for the contingency that the federal program will fall short of its goals. (See boxes on pages 30 and 31.)

Finally, as discussed in Section VI.A., the primitive nature of the roll-back technique for predicting the reductions that cities will need to achieve clean air suggests that it would be prudent to place a good deal of emphasis on control strategies which have a direct effect on factors which determine volume, concentrations, and location of auto pollutants. Such factors include the total vehicle miles traveled (VMT) in an area; the distribution of VMT over the region (i.e., congested zones); the distribution of VMT over time (i.e., peak hour traffic); and

the route speeds and idling times at various locations and times.[37] The exhaust controls of the federal program have no effect on these factors. However, transit improvements, vehicle restraints and complex source regulation can determine these factors. Accordingly, their presence in your State's plan to offset the failings of exhaust controls and the roll-back model is strongly recommended.

E. *Mandatory Maintenance and Inspection Programs*

An inspection-maintenance program is designed to identify those vehicles on the road with excessive emissions[38] resulting from malfunctioning engine components and to correct this malfunctioning. The procedure involves measuring the amounts of carbon monoxide, nitrogen oxides, and unburned hydrocarbons emitted from the exhaust systems. On the average, light-duty vehicles (1971 models and earlier) with proper maintenance emit approximately five to six grams per mile of hydrocarbons, 70 grams of carbon monoxide, and 2½ to 4 grams per mile of nitrogen oxides. If a vehicle is found to emit excessive amounts of these pollutants, a variety of adjustments may be made to reduce exhaust emission levels:

1) routine adjustment of idle speed, air-fuel ratio, and spark advance to the manufacturer's specifications
2) replacement of minor parts such as air filters, PCV valves, heat risers, vacuum lines, gaskets, etc.
3) repair, rebuilding, or replacement of the carburetor
4) replacement of plugs, points, condenser, distributor
5) major mechanical work involving repair or replacement of rings or valves.

EPA commissioned several studies to consider the feasibility and effectiveness of inspection-maintenance programs and subsequently established the minimum requirements for an acceptable program (contained in Appendix N of the transportation control amendments to the Guidelines). Also included in Appendix N are the projections of maximum reductions per vehicle to be expected from inspection-maintenance programs:

| | |
|---|---|
| HC | 12% |
| CO | 10% |
| $NO_x$ | 0 |

Unfortunately there has not been ample opportunity to validate these reduction projections, particularly in respect to deterioration of the engines after maintenance. EPA adjusted the actual reductions achieved in testing by a "best guess" factor to account for deterioration. In other words, the actual tests projected reductions of: HC 24%, CO 18%, and $NO_x$ 0. Assuming annual inspections, EPA estimated a return to the original emission rates during the 12-month period, which effectively cuts the reductions (on a yearly basis) in half.[39]

Numerous other factors may influence the effectiveness of an inspection-maintenance program. These include:

1) type of vehicle exhaust test used (loaded dynamometer or idle mode testing)
2) vehicle age mix in the region
3) skill of personnel in performing tests and maintenance
4) per cent of motor vehicles actually inspected and brought into compliance

[37] See Venezia, R.A., "The Implications for Transportation of New Federal Air Pollution Controls," at p. 16.

[38] The amounts of each pollutant in the exhaust vary with engine weight, size, and type of transmission. *Excessive emissions* are levels above the limits established by the State for various models and model years.

[39] This assumes that the deterioration occurs at a regular rate, i.e., 2% per month in the case of hydrocarbons, 1.5% a month in the case of CO. The yearly emission reduction will be lower than estimated if deterioration occurs faster in the first three to six months of operation than in the second half of the year.



5) incidence of owners operating and maintaining car properly between inspections.

1. Type of vehicle exhaust test used.

Besides the variations in exhaust emissions resulting from one model year and engine type to another, emission rates are highly dependent on the travel speed and driving conditions, i.e., stop-and-go driving, uphill or downhill traveling, operating from a hot-start or a cold engine.[40] Originally experts looked to the simplest and lowest-cost testing procedure—sampling the exhaust while the auto is in idle. However, subsequent study concluded that the variations in the exhaust emissions when the engine is under stress were significant enough to develop procedures for sampling exhaust emissions under simulated driving conditions. This is called "loaded emissions testing" and requires a dynamometer, which applies the same stress on the engine that would occur in each phase of vehicle operation (starting, accelerating, decelerating, climbing grades, stop and go, etc.).[41]

Other types of testing are not as effective in identifying cars with excessive emissions. The idle test only measures exhaust emissions when the car is operating in idle mode, so the test results do not indicate excessive emissions occurring in the other driving modes. Therefore, the maintenance necessary to pass an idle test may not be adequate to effectively reduce exhaust emissions occurring under normal driving conditions.

EPA also considered vehicle emission control programs which do not involve sampling the exhaust from each automobile—either by checking and adjusting the engine components which influence exhaust emissions (Engine Parameter Inspection) or by requiring car owners to have their cars tuned up every year (Mandatory Tune-up). However, test results showed that the most reliable means for identifying cars with excessi. emissions and correcting the problems is to *sample the exhaust emissions using a dynamometer to simulate driving conditions, and then make the adjustments or repairs indicated by the exhaust sample.*

Therefore, Appendix N (paragraph 6.a) requires that any vehicle inspection other than those using the loaded emissions test will be acceptable only if the State submits sufficient data to justify the reductions it claims.

2. Vehicle age mix.

The vehicle age mix of a region may cause emissions reductions to vary from reduction levels projected by EPA. Cars manufactured before the 1968 model year (1966 in California) have substantially higher emission rates than later models which are equipped with control devices. Although preliminary testing (of sample fleets up to 1971 model year) found that the per cent reduction per vehicle from inspection-maintenance did not vary significantly for pre-controlled autos as opposed to later model cars, this finding cannot be validated until an inspection program is tested on a large scale. Furthermore, achieving the reductions on older cars will in many cases require extensive repairs that entail high costs; the projected reductions do not reflect emission rates for these vehicles.[42]

But a more important consideration than the differing results which might occur between pre-'68 and later models, is the drastic change in effectiveness of an inspection-maintenance program which will occur once 1975 models are on the road. By 1975 new automobiles sold in the U.S. must be equipped with extensive control devices that reduce emissions of HC and CO to 10% of present levels, and by 1976, $NO_x$ emissions must be reduced an equal amount. This means in three to five years, the overall emission reductions to be achieved by inspection-

[40] Cold starts, uphill driving, and stop-and-go driving all result in increased amounts of CO and unburned HC in the exhaust.

[41] There are a variety of "loaded test" procedures for sampling the exhaust in different driving modes. These are described in the EPA document *Control Strategies for In-Use Vehicles*, Office of Air and Water Programs, Mobile Source Pollution Control Program, Washington, D.C. 20460 (November, 1972).

[42] Automobiles requiring over $100 in repairs were dropped from further testing.

maintenance may be considerably lower. In fact, the "experts" do not know at this time if existing inspection-maintenance procedures will even be applicable to the 1975 and 1976 model cars.

Appendix N addresses this problem but unfortunately indicates that the reductions achieved in testing of pre-1971 model cars may be considered applicable to future models:

> The effectiveness of inspection/maintenance programs in reducing emissions from future model year vehicles will depend primarily on the extent to which *emissions from those vehicles increase in use as a result of repairable malfunctions and on the ability of the inspection test to accurately identify vehicles having such malfunctions. These factors can be evaluated only after substantial numbers of such vehicles have been in use for some time.* However, for implementation planning purposes, it has been assumed that emissions reductions estimated to be achievable for current light duty vehicles will be applicable for future model years as well. (paragraph 6.a) [emphasis added].

You should point out to State planners that because no information is available on which to base this assumption, they should not include any reductions resulting from application of the program to post-1974 model year autos in their estimates of future reductions from the inspection-maintenance program.

3. Performance of tests and maintenance.

According to study results, the effectiveness of any inspection-maintenance program is highly dependent on the skill of the personnel performing the test and their conscientiousness in adequately servicing vehicles. There are three areas in which performance of the inspection-maintenance crews might break down:

—vehicle testing and analysis of exhaust sample

—diagnosis of repairs and adjustments needed

—actual repair and adjustment work.

Because EPA conducted its exhaust sampling tests in special labs, there is no indication of the range of error to be expected in testing vehicles. The accuracy of testing procedures will depend in large measure on the quality of training provided the personnel and on a more elusive factor—their conscientious performance. This requires reasonable pay scales, adequate numbers of personnel, and strong public support for "tight" inspection enforcement.

The second area of performance, diagnosis of repairs and adjustments needed, presents more complicated problems. EPA studies found that even where complete diagnostic information was provided to the repair agencies:

> ...They evidently did not fully utilize the diagnostic content of the inspection test results, but appear to have resorted to normal tune-up procedures.[43]

This tendency for repair garages to misinterpret or disregard diagnostic information provided by the inspection test leads to inadequate servicing or to over-servicing which substantially increases vehicle costs either to the State or to individuals. For instance, EPA found that garages were performing major ignition tune-ups on twice as many automobiles as was called for by the exhaust tests results.

Furthermore, ten to fifteen per cent of the cars tested *and* serviced failed a second inspection test. At least one-third of these failures were due to unsatisfactory repair. The balance required "excessive" repairs (over $100) in order to meet inspection criteria. Considering the notoriety that the auto repair industry has received in this country for inadequate performance at skyrocketing prices, these sample results may be merely the tip of an iceberg. Certainly any program applied on a large scale imposing less supervision and greater demands than these isolated tests will probably result in substantially lower performance rates.

Paragraph 3.c (iii) in Appendix N requires the State to include in an inspection-maintenance program:

[43] *Control Strategies for In-Use Vehicles*, *supra* n. 41 at p. 2-27 (draft).



> Provisions to ensure that failed vehicles receive the maintenance necessary to achieve compliance with the inspection standards. This might include sanctions against individual owners or repair facilities, retest of failed vehicles following maintenance, a certification program to ensure that repair facilities performing the required maintenance have the necessary equipment, parts and knowledge to perform the tasks satisfactorily, and/or other measures.

While the requirement is clear and comprehensive, the types of provisions necessary to meet the requirement may be difficult to institute and enforce. There is presently no adequate system "*to ensure*" that repair facilities have the necessary "*knowledge* to perform the tasks satisfactorily." Unfortunately, existing training programs in emissions control device repair and maintenance are minimal; large-scale programs must be *designed* to instruct and examine personnel involved in testing and maintenance. One study estimates that 174 hours of training would be required to train personnel in diagnostic testing[44]—the type of testing found most effective for identifying *and* adequately repairing "high emitters." It will be difficult to eliminate collusion between inspection personnel and automobile owners—since many auto owners will see substantial gains from "buying" a passing grade on inspection tests rather than paying for the repairs necessary to bring their cars into compliance.

You should insist that:

—the State run its own testing facilities rather than license private garages;

—that an adequately staffed inspection team is provided to certify and inspect repair facilities;

—that a retest in a State facility is required for failed vehicles that receive maintenance;

—that adequate training programs are provided and successful completion required for all personnel performing tests and maintenance;

—that spot-tests for excessive exhaust emitters are regularly conducted;

—that fines for offenders (repair facilities as well as individual auto users) are set high enough to deter collusion and/or encourage conscientious performance by maintenance personnel;

—finally, that adequate funds are budgeted to cover each of these aspects of the program.

4. Number of vehicles inspected.

A fourth factor influencing the effectiveness of an inspection-maintenance program is the actual proportion of the total population that undergoes inspection and is brought into compliance with allowable emission levels. From tests conducted in Michigan and California, the EPA study concluded that at least 50% of the total vehicle population should be inspected if projected reductions are to be achieved. Obviously, the larger the proportion of motor vehicles inspected and serviced, the more successful the program will be in reducing emissions; your State should provide adequate facilities and staff for testing and enforcement to bring more than one-half the total vehicle population into compliance.

Appendix N (paragraph 3.a) stipulates that in a State plan, "emissions reductions [from annual inspection-maintenance] may be assumed only to the extent consistent with the portion of the vehicle population that has been inspected by that time." In other words, the projected reductions apply per vehicle. Be sure the State has computed reductions only on the basis of the number of vehicles it can reasonably hope to inspect and bring into compliance. In all likelihood, the actual number will be lower than projected.

State-run facilities, such as inspection lanes operated off main arterials, are presumably the best approach for reaching the greatest numbers of cars. These facilities are not only more convenient for the motorist but also service a greater number of cars than individual garages. In safety-inspection programs conducted across the country, private garages handle an average

[44] *IPA Study*, p. 1-13.

of 800 cars per year, while State-operated facilities test approximately 50,000 vehicles per year. With such a large capacity, State facilities can mean lower program costs and increased potential for servicing larger segments of the vehicle population.

The number of facilities, their location, and the staff size—all influence the percentage of automobiles that will actually be brought into compliance. Any State plan that includes inspection-maintenance programs should give careful consideration to these problems. Considering that approximately 40% of the automobiles on the road are "excessive emitters," it becomes crucial to reach as many vehicles as possible.

5. Maintenance between inspections.

A final consideration that may reduce the effectiveness of an inspection program is the failure of owners and users to properly maintain their cars between inspections. Exhaust emission tests made in New York City on late-model cars indicated that voluntary maintenance was minimal—and the average car and even taxi cab (maintained in a fleet) did not meet manufacturer's specifications for emission levels in the exhaust. Furthermore, owners often undo adjustments that reduce emissions because they interfere with individual driving and operating habits. For example, readjusting the idle to higher speeds allows for faster starts; changing the air-fuel ratio to "rich" levels provides more fuel and facilitates cold-starts. But both adjustments result in higher emissions. Appendix N of the amendments specifically requires an inspection-maintenance program to include a "program of enforcement" to prevent these intentional readjustments. [§3.c (iv)]. A system of spot-checks of exhaust emissions and physical tagging of adjusted engine components should be incorporated in any State inspection program for it to be acceptable.

Although EPA test results from inspection-maintenance programs apply to light-duty vehicles (automobiles) only, the same approaches can be applied to heavy-duty vehicles. However, Appendix N stipulates:

> Transportation control strategies employing inspection/maintenance or retrofit of vehicles other than light duty vehicles will be acceptable only if sufficient data and analyses are provided to justify the emissions reductions claimed.

Because the State agencies are not able to claim reductions from retrofitting trucks and other heavy vehicles, they may not want to include this strategy in the plan. If your State plan includes an inspection-maintenance program, press State officials to incorporate testing and maintenance for trucks, since this will contribute to reductions in existing pollution levels, particularly for those districts of a city where truck traffic generates the largest proportion of the exhaust emissions.

While inspection-maintenance can be an effective means of reducing exhaust emissions, the considerations discussed here will substantially affect the overall reductions achieved. State plans must provide for a margin of "failure" in computing reductions from an inspection-maintenance program and provide alternate strategies to offset reduced effectiveness of the program.

F. *Retrofitted Emission Control Devices*

Automobile manufacturers were not required to equip automobiles with emission controls until the late nineteen-sixties. While almost 85% of the cars on the road today have some form of emission control, only 40% are equipped with *exhaust* controls—and reductions from these devices are still far below levels technologically possible today. Emission control devices are available for installation on (or "retrofitting" of) uncontrolled and insufficiently controlled used vehicles.

The devices currently available for retrofit and recently tested by EPA are designed to reduce pollutants in the exhaust gas: ignition timing devices, air/fuel ratio variations, exhaust gas recirculation, and exhaust gas controls (chiefly by use of a catalytic converter).

*Ignition timing devices* operate on the principle of retarding ignition spark to lower the peak temperatures in the combustion chamber and increase temperatures in the exhaust. The



changes result in less $NO_x$ formation in the engine and increased oxidation of HC in the exhaust. The most effective way is to disconnect the vacuum spark advance mechanism of the distributor (VSAD). The device includes a temperature-sensitive switch to allow the disconnect to occur automatically during different driving speeds to avoid overheating the engine.

The air-bleed to intake manifold system is a type of *air/fuel ratio modification.* The device is an air valve that meters additional air to the intake manifold to create a lean air/fuel mix. (The air/fuel ratio can also be increased by modification of the carburetor.)

With an *exhaust gas recirculation* system (EGR) 15% of the exhaust gases are recirculated by means of a vacuum-operated valve into the air induction system. This reduces the temperature in the combustion process, resulting in lower $NO_x$ emissions. This device is controlled by a speed control valve which shuts off the system at speeds below 26 mph.

The *catalytic converter* works by further oxidizing the gases in the exhaust. The exhaust gas is passed through a small canister containing a catalyst (platinum and palladium are the most efficient) which oxidizes the HC and CO to form carbon dioxide ($CO_2$) and water. The heat from the exhaust itself activates the catalyst and the additional oxygen needed is supplied from leaning the fuel mixture at the carburetor or by installing an air pump.

EPA tested these devices for emission control effectiveness, cost and driveability effects and incorporated the results in Appendix N of the transportation control guidelines.[45] Although these results represent the best information available on retrofit devices, the testing was quite limited and the projected reductions indicated in Appendix N (4.a) should be approached with some caution.

In the first place, the tests were performed on a very small sample of 20 precontrolled vehicles (cars manufactured before 1968 nationwide, pre-1966 in California). The sample fleets were drawn from the vehicle population in Michigan and California; it was assumed that the fleets were representative of the national vehicle age mix (for pre-controlled vehicles). However, experts have found the model-age mix is "city-specific," varying considerably from one area to another, and that this variable "becomes increasingly important in emission factor calculation."[46]

Second, because EPA testing included only pre-controlled vehicles, reductions for late-model cars are simply estimates drawn from results of pre-controlled testing. In areas where controlled cars are a substantial proportion of the vehicle population there is greater uncertainty about the overall reductions to be achieved by a retrofit program.

Most importantly, there is great uncertainty regarding the deterioration rates for retrofit devices. The durability tests reported by EPA included only one to three tests at zero miles and one to three tests at 20,000 to 25,000 miles. Although these tests indicated severe losses in efficiency, the reductions cited in Appendix N discount any losses from deterioration:

> . . . it appears that the average annual emissions reductions per retrofitted vehicle can approach the observed mean initial reductions if suitable inspection and maintenance criteria are adopted. Accordingly, it has been assumed for planning purposes that the observed initial emissions reductions will not be affected by deterioration.

This assumption seems risky given EPA's test results:

1) Appendix N indicates expected reductions from lean idle air/fuel ratio adjustment and VSAD to be:

| | |
|---|---|
| HC | 25% |
| CO | 9% |
| $NO_x$ | 23% |

[45] See Table 3. Findings are summarized in *Control Strategies for In-Use Vehicles*, EPA, Office of Air and Water Programs, Mobile Source Pollution Control Program. Washington, D.C., November, 1972.

[46] Kircher & Armstrong, *An Interim Report on Motor Vehicle Emission Estimation*, Oct., 1972, p. 4, EPA Office of Air Quality Planning and Standards, Research Triangle Park, N.C.

These are very close to the initial reductions achieved. But after 25,000 miles, reductions dropped to:

| | |
|---|---|
| HC | 8% |
| CO | -24%[47] |
| $NO_x$ | 39%. |

2) In tests of exhaust gas recirculation and VSAD the mean reductions achieved were used in the projection contained in Appendix N:

| | |
|---|---|
| HC | 12% |
| CO | 31% |
| $NO_x$ | 48%. |

Yet the durability test after 25,000 miles showed:

| | |
|---|---|
| HC | - 3% (increase) |
| CO | -55% (increase) |
| $NO_x$ | 10% |

The CO increases were once again attributed to a faulty choke mechanism. Reductions in $NO_x$ control were assigned to failure of the speed control switch in the EGR unit which was replaced twice.[48] There was no explanation given for the large increases in hydrocarbon emissions.

3) The durability tests of the air bleed to intake manifold device uncovered similar irregularities. Mean reductions were:

| | |
|---|---|
| HC | 21% |
| CO | 58% |
| $NO_x$ | - 5% (increase). |

After 25,000 miles, three tests indicated reductions of only 7% for HC and 7% for CO. Because the air bleed device is primarily for control of CO, the device was re-installed and adjusted. Only then did emissions reductions approach the mean levels (64% for CO). In effect, 64% represents an initial reduction, since it was not subjected to an additional 25,000 mileage test. Of the four types of controls EPA tested, *only* the catalytic converter achieved reductions at 25,000 miles which approached initial effectiveness.

Finally, in determining the expected reductions from each device, EPA used the mean reductions achieved in testing. Paragraph 4.b (i) of Appendix N states that these were adopted "as being the most representative of the initial emissions reductions which may be achieved in an actual retrofit program." However, the range of reductions actually achieved is quite wide (See Table 3). These extreme variations indicate that State planners should consider the mean reductions cited as the *maximum achievable* reductions. If your State's plan calls for a retrofit program, point out the test results to your State officials and press officials to assume reductions lower than those cited in Appendix N. This will provide for the likelihood of a retrofit program achieving lower reductions without jeopardizing your State's ability to meet national standards.

The information presented in Appendix N and in the EPA document on retrofit applies only to light-duty vehicles (passenger cars). Yet, trucks are substantial polluters in many cities and retrofit devices (based on the same techniques for trucks as those for cars) are available. If your State adopts a retrofit strategy, it should be applicable to trucks as well as cars. There are districts in major cities where high pollutant concentrations are almost entirely attributable to truck traffic—retrofit for automobiles alone would have little or no effect, and the public and auto owners would be penalized while the trucking industry continues to pollute.

As noted above, EPA's assumptions of the reductions achievable from retrofit strategies depend on the State's adoption of "suitable inspection and maintenance criteria." Accordingly,

[47] This increase could be attributed to faulty choke operation (not necessarily deterioration of the device itself). However, the car operated normally during the testing. In any event, the increase is an indication of what to expect in actual applications.

[48] The first time the switch was damaged in a car-wash facility; later the replacement became inoperative (cause unknown) and had to be replaced again.



**TABLE 3**

**RANGE OF REDUCTIONS ACHIEVED WITH RETROFIT DEVICES**

| Device | Pollutant | Range of Reduction(%) | EPA Projected Reduction (%)[1] |
|---|---|---|---|
| Catalytic Converter with VSAD | HC | 53 to 90 | 68 |
| | CO | 37 to 97 | 63 |
| | $NO_x$ | 17 to 64 | 48 |
| Lean Idle Air/Fuel Ratio with VSAD | HC | 9 to 29 | 25 |
| | CO | 8 to 77 | 9 |
| | $NO_x$ | 27 to 47 | 23 |
| EGR with VSAD | HC | 3 to 21 | 12 |
| | CO | 6 to 60 | 31 |
| | $NO_x$ | 43 to 52 | 48 |
| Air Bleed to Intake Manifold | HC | 10 to 32 | 21 |
| | CO | 22 to 80 | 58 |
| | $NO_x$ | -15 to 5 | - 5 |

Source: *Control Strategies for In-use Vehicles*, U.S. Environmental Protection Agency, Office of Air and Water Programs, Mobile Source Pollution Control Program, Washington, D.C., (November, 1972.)

[1] Same as mean reductions achieved, except for lean idle air/fuel ratio with VSAD where mean reductions were: HC—19%, CO—46%, and $NO_x$—37%.

the inspection and maintenance criteria may well be the most important component of any retrofit strategy your State adopts. EPA's requirements along these lines are quite thorough and should be followed to the letter by States adopting retrofit strategies. The EPA requirements read as follows:

c) Requirements

An acceptable retrofit program must include:

i) A method of ensuring that personnel installing the retrofits have the knowledge required to perform the needed tasks satisfactorily and have an adequate supply of retrofit components and that these components will be capable of achieving the claimed reductions.

ii) Provisions for emissions testing at the time of retrofit installation or some other positive assurance that the retrofit device is installed and operating correctly.

iii) Provisions for inspection of each retrofitted vehicle at least once per year.

iv) Provisions for the establishment of inspection standards for retrofitted vehicles consistent with the emissions reductions claimed. Particular attention must be paid in this regard to catalytic converter retrofits as the reductions cited in paragraph 4.a do not include possible irreversible catalyst deterioration over time.

v) Provisions to ensure that vehicles failing inspection receive the maintenance necessary to achieve compliance with the inspection standards.

vi) In the case of retrofit programs that include the use of catalytic converters requiring unleaded fuel, provisions to ensure that vehicles utilizing this type of retrofit will not use leaded gasoline and that adequate supplies of lead-free gasoline will be available if Federal regulations will not insure availability, and provided that such provisions are not in violation of Section 211 (c) (4) of the Act.

In addition, any adopted retrofit program must provide, as required by § 51.19 (d), for field verification of the emissions reductions actually achieved in the implemented program. (See discussion of § 51.19 (d) at p. 16, *supra*.)

These requirements are the heart of an acceptable retrofit strategy. Protest strongly to your EPA Regional Office is your State attempts to claim credit for retrofit program reductions without committing itself to the implementation of the inspection, maintenance, and surveillance components of the program.

G. *Traffic Flow Measures*

This strategy is based on the finding that motor vehicles operating in stop-and-go situations and low speeds emit higher quantities of pollutants in the exhaust stream. Moreover, traffic congestion tends to cause a build-up of pollutant concentrations in a small area. Measures to increase travel speeds and prevent congestion include a wide range of controls to speed the movement of automobiles and trucks: one-way streets, reversible lanes, median controls to reduce the number of turning points that stop traffic, light synchronization, bans on left turns, removing pedestrian crossings and walkways, directional lane markings, etc.

These measures have the greatest effect in cutting emissions at the "lower bounds"; for example, when speeds are increased from five to ten miles per hour. At higher speeds the reduction in emissions per vehicle is somewhat less.

There are two important points to note when considering traffic flow strategies. First, most cities already employ these techniques for the sake of convenience and to increase roadway capacities. Therefore, the opportunities for new applications may be limited. But more important, evidence has shown again and again that employing traffic flow measures reduces emissions for a very short time—then the increased speeds and easy flow actually induce *more* traffic, leading to increased emission levels. Estimates of effectiveness allow only six months to a year before the emissions increase again[48]—to even higher levels than originally present because the roadway capacity is, in fact, expanded.

[48] *IPA Study*, *supra* n.20, p. D-4 (draft).



A study of traffic patterns in Chicago before and after construction of the Congress Street Expressway in 1961 determined that the total vehicle miles traveled (VMT) in the area jumped by 21% with completion of the highway—the equivalent of a 7% per year increase, which is twice the normal VMT growth for Chicago. Similarly, in 1964 the Theodore Roosevelt Bridge was constructed crossing the Potomac River into Washington for the purpose of diverting traffic from other crossings. Within a year's time the total amount of traffic crossing at all the bridges had increased—offsetting the benefit of traffic originally diverted from more heavily congested bridges.

Studies of the impact of the beltway system circling Washington, D.C. found that this highway system contributed directly to increase commuter trips terminating in the city as well as inducing phenomenal increases in through trips along the circumferential route. Commuter traffic in 1976 is projected to increase 83% over the 1960 levels, while total vehicle miles traveled along the beltway are expected to jump from two to six times the 1960 levels.

These examples simply demonstrate the "motoring" phenomenon we're dealing with—that any expansion in roadway facilities or any measures undertaken to reduce congestion simply generates increased automobile trips and leads to more congestion. A State should not adopt traffic flow measures unless it also proposes motor vehicle restraints which will operate on the same roadways where speed is to be increased.

There are problems other than air pollution which should be considered before embarking on traffic flow measures. Higher travel speeds, particularly on crowded multi-laned turnpikes, compound the damage and injuries sustained in collisions. The public also should consider the tension-producing effects of cars whizzing at high speeds through business districts. Even where roadways are not bordered by pedestrian walks, they are close to houses, office buildings, parks, and city streets where people are working, shopping, or trying to relax. Any substantial increase in traffic speeds may increase noise levels. Besides the serious effects of noise on human health, increased background noise, such as that from highways, prevents or inhibits the normal exchange of information whether for business, pleasure, or in the classroom.

One final consideration in weighing the effects of traffic flow measures: any measure that increases traffic movement and average speeds may deter the public from employing mass transit services as well as alternate non-polluting modes of transportation—i.e. walking and bicycling. In fact, most traffic flow measures are specifically designed to prohibit pedestrian crossings or movement adjacent to the roadway. Certainly everyone is familiar with the broad intersections with painted triangles in the center which do not provide any protection to the pedestrian from traffic moving in both directions. And consider the roadways which traverse residential areas and provide access to shopping centers, suburban offices and theaters, yet do not provide walkways to allow safe passage for the pedestrian. Rather than instituting traffic flow measures as in the past, the State should begin now to build bicycle lanes and construct walkways where such movement has been prohibited or hazardous. Such steps are particularly appropriate where the roadways which connected once-isolated suburban developments with the city's center are now lined with offices, shopping centers, banks and other facilities within easy walking or biking distance of residential communities.

H. *Conclusions*

Based on the above discussions, NRDC suggests that an essential component of any transportation control strategy is a combination of transit improvements, vehicle restraints, and complex source regulation. These measures can form an integrated traffic reduction strategy that can reduce air pollution as well as serve other environmental and human needs. This strategy should be complemented by measures to reduce individual auto emissions. However, these exhaust control measures should not be *substituted* for a traffic reduction strategy. While control devices to reduce auto exhaust are a valuable tool for abating automobile pollution, these measures *alone* do not constitute an adequate transportation control plan:

—in the short run, in-use effectiveness of mechanical control devices and maintenance is likely to be significantly below projected efficiency;

—in the long run these measures will not abate air pollution resulting from increasing automobile use;

—these measures do not represent a balanced approach to urban transportation needs which is necessary to avert other environmental hazards: noise, space limitations, increasing congestion, loss of mobility for non-auto owners, and land-intensive suburban sprawl.

## VIII. CITIZEN ACTION

There are two major areas for action if you want to develop a sound transportation control strategy for your State. First, there is the public hearing on the State's proposed plan. This hearing must be held before the State submits its plan to EPA on February 15, 1973. Second, there is the period of EPA review of your State's plan.

### A. *Information*

Prior to participating in the hearings, you will need to prepare yourself to deal with the issues. First, you should have some familiarity with the health effects of pollution. Two useful sources are the "Air Pollution Primer" published by the National Tuberculosis and Respiratory Disease Association, and the "Air Pollution Workbook" put out by the Scientists' Institute for Public Information. For detailed information on the harmful effects of those pollutants now listed by EPA, federal Criteria Documents are valuable. See the bibliography for listings of these and other sources.

Second, learn the specifics of auto pollution in your city:

—the amount of total CO, $NO_x$ and HC emissions attributed to motor vehicle exhaust

—the areas of highest pollutant concentrations (central business district, freeways, industrial plant locations, shopping districts, etc.)

—the types of vehicle that contribute the largest amounts of these pollutants (trucks, private autos, taxis)

—the particular driving patterns that generate these emissions (work trips, truck delivery, shopping trips, through-traffic, etc.).

If you live in one of the 14 cities listed below, an EPA Contractor has already collected this data for you. Ask your EPA Regional Office for the study.[49]

All of this information should be included in your State's implementation plan. If it is not included, or if the data is incomplete, you should immediately contact your local and State air pollution agency as well as the transportation representative in the EPA Regional Office (see list of addresses and phone numbers, p. 51). Point out to the authorities that the plan will be considered inadequate if this information is not included (see the discussion of Guidelines, p. 17) and that steps must be taken to collect the information *before* the plan is presented at the public hearing and submitted to EPA.

Besides the problem of air pollution in your area, you should gather as much information as possible on particular aspects of the transportation system in the community. This information will lead to a better understanding of whether proposed measures will be effective, as well as provide support for particular strategies you would like to see implemented.

[49]TRW, Inc. has done studies on Dayton, Denver, Houston-Galveston, Los Angeles, New York, Philadelphia and Phoenix. GCA Corp. has studied Baltimore, Boston, Spokane, Salt Lake City, Seattle, St. Paul, and Pittsburgh. Each of these studies proposes a specific transportation control strategy for each city.



Try to find out:

—how much parking space is available in the CBD; request a breakdown for on-street and off-street parking, private and public facilities, proposed construction of parking facilities, local zoning laws concerning this construction, average parking rates;

—the extent of transit service in your city; the number of buses, travel time, frequency of service on various lines, extent of service provided to suburban neighborhoods, number of riders, proposals already underway to extend or cut-back service, special services provided (if any) for shoppers, for sports and cultural events;

—the number of automobiles registered in the area compared to the population; the vehicle age mix of the automobiles;

—the estimated capacity of existing roadways and turnpikes and the current use (i.e., filled to 90% of capacity);

—information on the average auto trip in your city: length (in most downtown areas, trips are notoriously short, ½ to ¼ mile), average speed, etc.

If you cannot get this information from the plan or from the local, State, or federal pollution control agency in your area, then contact the state and local Highway Department or Department of Transportation, the local transit service, the Bureau of Motor Vehicles (registration statistics) and even the local Tax Commissioner's office (which has breakdowns of parking facilities for purposes of property taxing).

*Know your control authorities.* You will come into contact with three levels of pollution controllers in your efforts: local, State, and EPA regional officials. Ask to attend their meetings if any are being held before the hearing. Becoming acquainted with EPA regional personnel and procedures is particularly important since it is the Regional EPA Office which will review your State's plan.

However, your first concern should be with the State agency or agencies responsible for writing and submitting the implementation plan for your AQCR. If your region is an interstate one, remember that each State involved must submit a plan for its part of the region, but that these plans must be coordinated. You will want to pay attention to the plans for all parts of your AQCR and this will mean knowing all the agencies responsible for the plans, as well as any interstate authorities.

Naturally, you will not have time to accomplish all of the above tasks in the short time remaining before the hearings if you are beginning from scratch. You might consider contacting other individuals and groups which share your interest and divide the work among you. The EPA Regional Office may have the names of groups in your area. The Regional Office also may be able to inform you if any workshops will be held in your city.

### B. *Get the Proposed Plan*

To make an adequate assessment of a proposed implementation plan and have real influence on its final content, it is essential that you obtain copies of the proposal as soon as possible, before the hearings.

Section 51.4(b) of the federal Guidelines requires State agencies to give "reasonable notice" of hearings on proposed plans. "Reasonable notice" includes, at least 30 days prior to the date of the hearing(s):

> —Notice given to the public by prominent advertisement announcing the date(s), time(s), and place(s) of such hearing(s) and the availability of the principal portions of the proposed plan, including, as a minimum, all rules and regulations which are proposed to be included in such plan, for public inspection in at least one location in each region to which the plan will apply.

If your State's plan is to be submitted by Feb. 15th, then hearings should take place in the next few weeks and notice should have already been made. However, as this manual goes to press, several States have still not set hearing dates. Check with your Regional EPA trans-

portation representative to find out if your State has set a date—if not, or if thirty days' notice is not provided, then press for a later hearing date, even if it means the plan is submitted late. Where States are operating under time restraints it is more important that the public receive sufficient notice and as much time as possible to review the proposed plan *before* the hearing, than for the plan to be submitted by the Feb. 15th deadline.

The most important parts of the plan will deal with the selection of particular control strategies, demonstration of the adequacy of the selected strategies, and summaries of the supporting data used to justify each choice. The proposed rules and regulations for carrying out these strategies may not even be ready in time for the hearing—much less thirty days prior to the hearing date. Where the State is unable to make this portion of the plan available in time, separate hearings to consider the proposed rules and regulations must be held at a later date before this portion of the plan can be submitted to the regional EPA office. If your State may object to this. If so, protest to your Governor, the EPA Regional Office and the press. Let NRDC know too.

Many EPA Regional Offices have agreed to reproduce copies of the plans for citizens. Urge your Regional Office to do so.

C. *Prepare a Critique of the Proposed Plan*

The next step is to analyze the proposed plan and prepare a critique. Time short and you may be in the uncomfortable position of the layman criticizing procedures even the experts are not sure about. You can reassure yourself and add weight to your testimony by getting the volunteer assistance of engineers, scientists, doctors, or lawyers. Seek them out in local graduate schools. Try the environmental law committee of the State Bar Association or the local Sierra Club chapter.

It is important to remember that, even with no technical or legal help at all, citizens are capable of reviewing key elements of proposed plans and making substantial constructive criticisms.

Your critique should approach the plan from four main points:

1. Air Quality Data.

Determine if necessary data is included and if the sources are reliable. Check to see that air quality monitoring is done at the heaviest traffic points and at *street level where pedestrians are affected.*

2. Choice of Strategies.

Carefully look over the discussion of strategies the State considered and rejected; considerations of economic impact, cost effectiveness or political/legislative problems are not legally sufficient grounds to reject any strategy. Outline as specifically as you can the strategies you think should be included in the State plan, including as much hard data as you have available to substantiate the effectiveness of your alternative or additional measure. The most important strategies are those to improve mass transit, to restrict private vehicle use, and to regulate new traffic-generating construction.

3. Date for Attainment.

The State plan should aim for achieving national ambient air quality standards by 1975 (see discussion of deadlines and extensions, p. 11). It is the responsibility of the State to demonstrate that no combinations of practicable control measures (including those citizens suggest) result in the necessary reductions by 1975. Only then is a request for extension to 1977 warranted.

4. Enforcement.

Check that detailed enforcement procedures are outlined for each proposed strategy. (Discussion, p. 14.) Then be sure that the budget allotments are to each responsible agency



seem reasonable. The State should never assign new duties or areas of enforcement to any agency without providing funding for additional manpower to carry out these tasks. Assess the adequacy of the plan's monitoring and surveillance procedures.

D. *Questions to Keep in Mind When Reviewing Your State's Plan*

1. Does emission data reflect any recent increase in pollution levels? Has it been taken into account?
2. Were air samples taken at the heaviest intersections? At street level?
3. Do the reductions from each strategy add up to total reductions necessary to attain national standards with an adequate margin for error?
4. Do selected strategies reduce overall emissions to levels low enough that national standards are not exceeded more than one day a year (or does the plan call for variable control—alerting motorists on "bad" days—an ineffective approach)?
5. Will the strategies attain national standards by 1975? If not, has the State demonstrated that no strategies are available to meet standards by 1975?
6. Does the plan demonstrate that the strategies are adequate to *maintain* standards after 1975?
7. Does the plan provide detailed procedures for instituting control measures and enforcing them?
8. Are allocations ($) for enforcement agencies sufficient?
9. Does the plan describe procedures for monitoring the actual reductions achieved after control measures are implemented?
10. Does your State have adequate legal authority to carry out its plan?
11. Are adequate measures included to reduce the total VMT in the area?
12. Does the plan provide for a balanced approach to urban transportation needs, by improving mass transit, providing demand-responsive systems, and extending services to suburban communities?
13. Does the plan provide for regulating "complex sources," abandoning future urban highway construction, regulating the construction of new parking facilities?
14. If traffic flow strategies are included, are they accompanied by adequate vehicle restraints?

E. *Hearings*

Appearance at the hearings will serve two purposes: to influence the content of the proposed plan and to serve notice that concerned citizens will be watching its implementation and enforcement.

In many States officials are predicting a citizen backlash: disgruntled citizens anxious to fight any impingement on their present use of the automobile. This makes it more important for citizens who are concerned with the environmental damage caused by the automobile on our cities to arrange for solid citizen support at the hearings, and inform the community at large of the problems and solutions to automobile pollution.

Arrange for witnesses to present your critique at the hearings. If lawyers, scientists, engineers or doctors have helped prepare the arguments, have them testify to lend maximum weight to your presentation. Make sure that the full text of your arguments, including whatever detailed material is necessary to back them up, is submitted as testimony in such a way that it appears in full in the transcript of the hearings. Your objections may provide for eventual overturning of an inadequate plan.

Stimulate as large a public turnout at the hearings as possible to support your views. If you do not think the agency has given adequate notice of the hearings, do it yourself. Urge

other citizens' groups to appear at the hearings. If they are not preparing their own testimony, try to get them to make statements supporting yours. If they cannot appear at the hearing, have them mail their statements in. Statements presented in writing, even by mail, become part of the record just as if presented in person.

F. *After the Hearings*

Unlike the previous review of your State's plan, the EPA review of the transportation plan will be the primary duty of the EPA Regional Office. You should make every effort to press your arguments against the plan to the Regional Office. Contact the Regional Transportation Representative (see list p. 51), the Regional Counsel, and the Regional Administrator.

Last year's review of plans by EPA was essentially a process of bilateral negotiation between EPA and the State, with the public effectively frozen out of decision-making regarding the acceptability of the State's plan. A repetition of this closed process can be avoided simply by making your presence felt at the Regional Office. Find out EPA's preliminary views of the adequacy of your State's plan. Respond in writing to EPA's positions.

Added to these contacts should be an insistence that EPA develop structured procedures to guarantee citizen participation in the EPA review process. These procedures should include placing all correspondence between the State and EPA in the public file without delay and provision of these materials on request. Second, EPA should make its plan reviewing personnel available for meetings with citizens. Efforts should be made to get EPA to issue its decision on approval or disapproval as a notice of proposed rule making, providing opportunity for comment, preferably at a public hearing.

If it appears that EPA feels the plan should be disapproved, urge the agency to publish its disapproval before the end of the four-month review period. If this is done, the process of proposal and promulgation of substitute plan regulations may be accomplished on time rather than months behind schedule as has been EPA's practice.

If you have complaints or difficulties in your dealings with the Regional Office, express your dissatisfaction to EPA Washington headquarters. The headquarters Office of Air and Water Programs and the Office of General Counsel will be overseeing the Regional Office's review process.

Most important, keep in mind that effective citizen pressure on EPA can make a difference in the results of its review. If a coalition of groups and citizens from a community expresses a strong desire for a public meeting to discuss EPA's review, the agency is likely to accede. If you persevere with the EPA Regional Office, you may accomplish much that was not achieved before the State submitted its plan.



## IX. APPENDICES

### APPENDIX A

**NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Primary Standard | Secondary Standard |
|---|---|---|
| *Carbon Monoxide:* | (a) 10 milligrams per cubic meter (9 p.p.m.)—maximum 8 hr. concentration not to be exceeded once a year.<br>(b) 40 milligrams per cubic meter (35 p.p.m.)—maximum 1-hr. concentration not to be exceeded more than once a year. | Same as Primary Standard. |
| *Hydrocarbons:* | 160 micrograms per cubic meter (0.24 p.p.m.)—maximum 3-hr. concentration (6 to 9 a.m.) not to be exceeded more than once per year. | Same as Primary Standard. |
| *Nitrogen Dioxide:* | 100 micrograms per cubic meter (0.05 p.p.m.)—annual arithmetic mean. | Same as Primary Standard. |
| *Photochemical Oxidants:* | 160 micrograms per cubic meter (0.08 p.p.m.)—maximum 1-hr. concentration not to be exceeded more than once per year. | Same as Primary Standard. |

## APPENDIX B

### CITIES SUBMITTING TRANSPORTATION CONTROL STRATEGIES FEB. 15, 1973[1]

| CITIES | EPA REGION[3] | EXTENSION TO 1977 |
|---|---|---|
| Fairbanks, Alaska | X | NO |
| Phoenix, Arizona | IX | YES |
| Tucson, Arizona | IX | YES |
| San Francisco, California | IX | YES |
| [2] Los Angeles, California | IX | YES |
| San Diego, California | IX | YES |
| Sacramento, California | IX | YES |
| Fresno, California | IX | YES |
| Denver. Colorado | VIII | YES |
| Washington, D.C. | III | NO |
| Chicago, Illinois | V | NO |
| Baltimore, Maryland | III | YES |
| Boston, Massachusetts | I | YES |
| Minneapolis-St. Paul, Minnesota | V | YES |
| New York City, New York | II | YES |
| Dayton, Ohio | V | YES |
| Portland, Oregon | X | NO |
| Philadelphia, Pennsylvania | III | YES |
| Pittsburgh, Pennsylvania | III | YES |
| Austin, Texas | VI | YES |
| Corpus Christi, Texas | VI | YES |
| Dallas-Fort Worth, Texas | VI | YES |
| El Paso, Texas | VI | YES |
| Houston-Galveston, Texas | VI | YES |
| San Antonio, Texas | VI | YES |
| Salt Lake City, Utah | VIII | YES |
| Arlington, Virginia | III | NO |
| Seattle, Washington | X | YES |
| Spokane, Washington | X | YES |

[1] New Jersey and Nevada also need transportation controls to meet national standards, but they submitted transportation control plans last January. Those plans will now be subject to the requirements of the amended guidelines; however, EPA has not yet required these States to resubmit their plans.

[2] EPA is to propose a plan for L.A. by January 15, 1973.

[3] See p. 51 for addresses of EPA Regional Offices.



## APPENDIX C

### THESE STATES WOULD NEED TRANSPORTATION CONTROLS TO MEET STANDARDS BY 1975 BUT HAVE BEEN GRANTED EXTENSIONS TO 1977.[1]

| CITIES | EPA REGION |
|---|---|
| Birmingham, Alabama | IV |
| Mobile, Alabama | IV |
| Indianapolis, Indiana | V |
| Kansas City, Kansas | VII |
| Springfield, Massachusetts | I |
| Kansas City, Missouri | VII |
| Central New York | II |
| Genesee-Finger Lakes, New York | II |
| Toledo, Ohio | V |
| Cincinnati, Ohio | V |

[1] EPA argues that the States can meet the standards by 1977 without transportation controls; however, if the EPA extension is overturned by the courts, these States will have to submit transportation control plans, and this manual will apply to them.

## APPENDIX D

## DEADLINES FOR OBTAINING LEGAL AUTHORITY

| STATE | LEGAL AUTHORITY REQUIRED BY | ADOPTED REGS. REQUIRED BY |
|---|---|---|
| Alaska | July 1, 1973 | Dec. 30, 1973 |
| Arizona | July 30, 1973 | Dec. 30, 1973 |
| California | Dec. 31, 1973 | Mar. 31, 1974 |
| Colorado | Dec. 31, 1973 | Dec. 31, 1973 |
| District of Columbia | July 30, 1973 | Dec. 30, 1973 |
| Illinois | July 30, 1973 | Dec. 30, 1973 |
| Maryland | June 30, 1974 | Dec. 30, 1974 |
| Massachusetts | June 30, 1974 | Dec. 30, 1974 |
| Minnesota | July 30, 1973 | Dec. 30, 1973 |
| New York | July 30, 1973 | Dec. 30, 1973 |
| Ohio | July 30, 1973 | Dec. 30, 1974 |
| Oregon | Dec. 30, 1973 | Dec. 30, 1973 |
| Pennsylvania | July 30, 1974 | Dec. 30, 1974 |
| Texas | July 30, 1973 | Dec. 31, 1973 |
| Utah | July 30, 1973 | Dec. 30, 1973 |
| Washington | July 1, 1973 | Dec. 30, 1973 |



## APPENDIX E

## EPA REGIONAL OFFICES

*REGION I*
John F. Kennedy Federal Building
Room 2303
Boston, Massachusetts 02203

Transportation Representative: Wally Woo: (617)223-4636

*REGION II*
26 Federal Plaza
Room 908
New York, New York 10007

Transportation Representative: Tim Dwyer: (212) 264-9867

*REGION III*
Curtis Building
6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Transportation Representative: Chuck Miesse: (215) 597-9399

*REGION IV*
1421 Peachtree Street, N.E.
Atlanta, Georgia 30309

Regional Air Pollution Control Dir.: Tommie A. Gibbs: (404) 526-3043

*REGION V*
1 North Wacker Drive
Chicago, Illinois 60606

Transportation Representative: Jack Chicca: (312) 353-6942

*REGION VI*
1600 Patterson Street
Suite 1100
Dallas, Texas 75201

Transportation Representative: John Crocker: (214) 749-1231

*REGION VII*
Room 249
1735 Baltimore Avenue
Kansas City, Missouri 64108

Chief, Air Program Support Branch: Dewayne E. Durst: (816) 374-3791

## EPA REGIONAL OFFICES (CONT.)

*REGION VIII*
1860 Lincoln Street
Suite 900
Denver, Colorado 80203

Transportation Representative: Dale Wells: (303) 837-4831

*REGION IX*
100 California Street
San Francisco, California 94111

Transportation Representative: Ron Mueller: (415) 556-2332

*REGION X*
1200 6th Avenue
Seattle, Washington 98101

Transportation Representative: Jerry Kurtzweg: (206) 442-1226



## APPENDIX F

## BIBLIOGRAPHY

Government Publications:

1. The Clean Air Act (42 U.S.C. 1857 et. seq.).

2. EPA, "The National Primary and Secondary Ambient Air Quality Standards" 40 Code of Federal Regulations, Part 50, 36 *Federal Register* 8186.

3. EPA, "Requirements For Preparation, Adoption, And Submittal Of Implementation Plans" (Federal Guidelines) 40 Code of Federal Regulations, Part 51, 36 *Federal Register* 22398 (Nov. 25, 1971), and amendments to Part 51, 38 *Fed. Reg.* 1464 (Jan. 12, 1973).

   [The above documents can be ordered through: Environmental Protection Agency, Public Affairs, Public Inquiries Branch, 4th & M St., S.W., Washington, D.C. 20460. They are available free of charge. In quantities of over 10, however, there is a waiting period of about two weeks.]

4. Senate Committee on Public Works, "National Air Quality Standards Act of 1970", *Sen. Rpt.* No. 91-1196, 91st Cong., 2d Sess. (1970).

   [The above document can be ordered from the Committee itself: Committee on Public Works, 4202 New Senate Office Building, Washington, D.C. 20510. It is free of charge, but available in limited amounts only. It can also be ordered from the Government Printing Office.]

5. Air Quality Criteria Documents:
   —Carbon Monoxide, GPO No. HE 20.1309:62
   —Photochemical Oxidants, GPO No. HE 20.1309:63
   —Hydrocarbons, GPO No. HE 20.1309:64
   —Nitrogen Oxides, GPO No. EP 4.9:84.

6. EPA, *Control Strategies for In-Use Vehicles* Office of Air and Water Programs, Mobile Source Pollution Control Program, Washington, D.C. 20460 (Nov., 1972).

7. EPA, *Evaluating Transportation Controls to Reduce Motor Vehicle Emissions in Major Metropolitan Areas* (Nov. 20, 1972). Air Pollution Technical Information Center, Research Triangle Park, N.C.

Other Publications:

1. *Air Pollution Primer*, National Tuberculosis and Respiratory Disease Association, 1969—A clear, concise introduction to the problem of air pollution.

   [Order from your local T B & R D Association. Copies are free of charge.]

2. *Air Pollution Workbook*, Scientists' Institute for Public Information, (1970). Lucid, short explanations of the atmosphere, characteristics of specific pollutants and biological effects of pollution.

   [Order from: Scientists' Institute for Public Information, 30 East 68th Street, New York, N.Y. 10021. Available at $1.00 per copy.]

3. *Action for Clean Air:* A Manual for Citizen Participation in State Implementation Plan Proceedings Under the Clean Air Amendments of 1970.

   [Order from: Project on Clean Air, Natural Resources Defense Council, Inc., 36 West 44th St., New York, N.Y. 10036.]

ATTACHMENT 3

NATURAL RESOURCES DEFENSE COUNCIL, INC.
NEWSLETTER

WINTER 1971

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"CITIZEN SUITS UNDER THE
CLEAN AIR ACT AMENDMENTS OF 1970"



# CITIZEN SUITS UNDER THE CLEAN AIR ACT AMENDMENTS OF 1970*

**Richard E. Ayres**
**James F. Miller**

*The provision allowing citizen suits is among the most significant improvements in federal air pollution law made by the 1970 Amendments to the Clean Air Act. It was the intention of Congress to include private citizens as much as possible in the implementation and enforcement of the Clean Air Act, and to that end Section 304 of the Act allows any citizen to bring a civil suit in federal court against any polluter or governmental agency, including the federal Environmental Protection Agency, for failure to comply with the Act. The provision allows judges to award attorney's fees and litigation costs to citizen plaintiffs. The purpose of this article is to examine the citizen suit provision. Though the provision gives citizens access to a broad new range of actions, it has distinct limitations. We will describe these limitations and explore the uses to which the provision can be put, and discuss some of the problems citizen plaintiffs will face in using it.*

## I. PARTIES AND REMEDIES

Section 304 of the Clean Air Act gives any individual, corporation, partnership, association, state, municipality, or political subdivision of a state the right to sue in federal district court to enjoin violations of the Act and the state implementation plans under it.[1] This large class of potential plaintiffs is limited in only two ways. A citizen may not sue a state in which he does not reside and he may not sue when the federal EPA Administrator or the state is "diligently prosecuting" a civil action in a state court. If the Administrator or the state is diligently prosecuting a suit in the federal courts, the citizen also may not sue on his own behalf, but he may intervene as a matter of right and so become a full party to the suit.[2]

The federal district courts are given jurisdiction over citizen suits regardless of the amount in controversy or the citizenship of the parties, and the plaintiff need allege no special damage to himself or herself, or to a class. "Any person" may be named as defendent by a citizen plaintiff.[3]

The Act gives the citizen the right to sue a polluter or the federal Administrator for an injunction, or the Administrator in mandamus when he is not performing his duty, but it does not grant the right to sue for damages.[4] However, Section 304 does not preclude suits for damages against polluters. It explicitly retains all other rights a citizen plaintiff has under state and federal law,[5] including class actions and traditional common law actions – e.g., private (and in some

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1 Section 302(e), 42 U.S.C. §1857h(e).

2 Section 304(b)(1)(B), 42 U.S.C. §1857h-2(b)(1)(B).

3 Section 302. 42 U.S.C. §1857h. The only limit is the federal Eleventh Amendment.

4 Section 304(a)(1) & (2), 42 U.S.C. §1857h-2(a)(1) & (2).

5 "Nothing in this section shall restrict any right which any person (*or class of persons*) may have under any statute or common law to seek enforcement of any emission standard or limitation or to seek *any other relief* (including relief against the Administrator or a State agency)." [emphasis supplied] Section 304(e), 42 U.S.C. §1857h-2(e).

states, public[6] nuisance actions.[7]

## II. JURISDICTION

Section 304 confers jurisdiction on federal district courts to enforce a state or federal emission standard or limitation, or an order issued pursuant to such a standard or limitation. It also gives the court the power to order the Administrator to perform a mandatory duty under the Act.[8]

Suits concerning a stationary source of pollution must be brought in the district where the source is located. Section 304 is silent as to which district courts will have jurisdiction over suits involving automobiles, airplanes and other moving sources, but presumably a citizen may bring suit in any district in the United States, subject only to traditional notions of *forum non conveniens*[9] and the rules governing personal jurisdiction.[10]

## III. PROCEDURE FOR BRINGING SUIT – NOTICE

Citizen plaintiffs must give notice before bringing suit. Suit immediately following notice is allowed when the citizen plaintiff alleges

- an emission of a hazardous air pollutant in excess of the national standard promulgated under Section 112 by the Administrator;[11]
- a violation of an order issued by the federal Administrator under Section 113(a) of the Act.[12]

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6 The Second Restatement of Torts is presently recognizing broader rights in private citizens to sue in public nuisance.

7 Subsection 304(e) also raises an interesting question which neither the Clean Air Amendments nor their legislative history answers: can a judgment in a Section 304 citizen suit serve as a basis for summary judgment in a subsequent class action or nuisance suit for damages against the same defendant? There would seem to be no reason why the findings in the Section 304 suit would not be *res judicata* against the same defendant in a subsequent action for damages. (The converse is clearly not true. "Compliance with standards under this Act would not be a defense to a common law action for pollution damages." Senate Comm. on Public Works, Subcomm. on Air and Water Pollution, *National Air Quality Standards Act of 1970*, Sen. Rep. No. 91-1196, 91st Cong., 2d Sess. 38 (1970). [hereinafter "Sen. Rep."].) Whether these findings could serve as the basis for summary judgment depends on the similarity of the issues before the subsequent court. In a Section 304 suit against a polluter, the issue before the federal court would be whether the polluter has violated an applicable "emission standard or limitation." In a nuisance action, however, the issue is often whether the defendant's conduct constitutes an "unreasonable" interference with the plaintiff's health or the use of his property, and proof that he violated an applicable emission standard or limitation might not necessarily be considered dispositive on this issue.

On the other hand, a court might accept the argument that violation of an emission standard or limitation amounted in law to damage to health or property, since the emission standards and limitations promulgated by state agencies must, by federal law, be set at levels which will attain the National Air Quality Standards, and these standards have been set to protect public health and welfare. Section 109, 42 U.S.C. §1857c-4; Section 110(a)(2)(B), 42 U.S.C. §1857c-5(a)(2)(B).

8 Section 304(a), 42 U.S.C. §1857h-2(a). *See III, infra*, for a discussion of the causes of action covered by this jurisdiction.

9 *See* Fed. R. Civ. P., Rule 12(b)(3).

10 There is typical federal question jurisdiction and thus, presumably, a state agency can bring suit against an agency of a neighboring state, if the neighboring state is in a period of "federally assumed enforcement" under Section 113(a)(2), 42 U.S.C. §1857c-8(a)(2). Such a suit would not appear to be in contravention of the Eleventh Amendment, and under Article III of the Constitution, the judicial power of the United States would extend to such a suit. There would be some question, however, of whether original jurisdiction resided in the federal district courts, or in the United States Supreme Court.

11 National emission standards for hazardous pollutants have been proposed by the Administrator, at this writing, for asbestos, beryllium, and mercury. 36 F.R. 23239 (December 7, 1971). Final emission standards must be promulgated by the Administrator not later than 180 days after the date of publication. Other hazardous substances may be added to the list in the discretion of the Administrator, pursuant to the procedures of Section 112, 42 U.S.C. §1857c-7.

12 Section 113(a) provides for three different types of orders:

(1) against a violator of a state implementation plan. If the Administrator finds that a polluter is in violation, and the violator fails to comply with the plan within 30 days after being notified by EPA, the Administrator may issue a compliance order; and,

Sixty days' notice to the defendants is required in suits alleging

- a violation of an "emission standard or limitation" (other than a hazardous pollutant standard) (i.e., a violation of a state emission standard or limitation, or a federal new source performance standard);[13]
- a violation of an order "with respect to" an emission standard or limitation;[14]
- a failure by the federal Administrator to carry out a non-discretionary duty under the Act.[15]

In suits against a polluter or a state, the plaintiff must give notice to (1) the federal Administrator;[16] (2) the regional Director of the federal Environmental Protection Agency for the region in which the violation occurred;[17] (3) an authorized representative of the state agency charged with responsibility for air pollution control in the state where the violation occurred;[18] and (4) the owner or managing agent of the facility, if any, alleged to be in violation of the Act.[19] In a suit against the federal Administrator, the citizen need give notice only to the Administrator himself.[20]

The form of the notice has purposely been made simple. Congress did not intend this requirement to be burdensome,[21] and the Administrator's regulations have carried out this intent.[22] Notices must only identify the specific standard, limitation, or order alleged to have been violated, the activity alleged to be in violation, the persons responsible for the violation, the location and dates of the violation, and the name and address of the person giving notice.[23] Notice to the Administrator alleging a failure to carry out a non-discretionary duty must specify the provision of the Act creating the duty, the action or omission alleged to be in violation, and the name and address of the person giving notice.[24]

It is difficult to predict what effect the notice provision of Section 304 will have. In suits against polluters it may not be as benign as it would first appear. It is possible, of course, that a citizen's notice of intention to sue may spur a laggard polluter to comply with state regulations, thereby accomplishing the purposes of the Act with minimal expense to the citizen. On the other hand, Section 304(b)(1)(B) provides that if a state or the federal Administrator has commenced and is "diligently prosecuting" a civil suit against the violator, the citizen may not bring a separate suit. This presents no problem where the federal Administrator has brought suit, because a citizen may intervene in the federal suit as a matter of right. But where a state has brought suit the citizen has no such right.[25] Thus state officials could hurriedly bring their own suit

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(2) against a violator, during a period of "federally assumed enforcement." If the Administrator finds that violations of an applicable state implementation plan are so widespread that they appear to result from a failure of the state to enforce the plan, the Administrator may, after notice to the state, enforce any requirement of the plan by, *inter alia*, issuing a compliance order;

(3) against any person for violating standards for new sources under Section 111, standards for hazardous pollutants under Section 112, or any requirement of the federal monitoring and information provision, Section 114.

13 Section 304(b)(1)(A), 42 U.S.C. §1857h-2(b)(1)(A).

14 *Id.*

15 Section 304(b)(2), 42 U.S.C. §1857h-2(b)(2).

16 Section 304(b)(1)(A)(i), 42 U.S.C. §1857h-2(b)(1)(A)(i).

17 40 CFR Part 54 [formerly 42 CFR Part 415], §54.2(a), 36 F.R. 23386 (December 9, 1971).

18 Section 304(b)(1)(A)(ii), 42 U.S.C. §1857h-2(b)(1)(A)(ii) & 40 CFR §54.2(b).

19 Section 304(b)(1)(A)(iii), 42 U.S.C. §1857h-2(b)(1)(A)(iii) & 40 CFR §54.2(c).

20 Section 304(b)(2), 42 U.S.C. §1857h-2(b)(2).

21 Sen. Rep. at 37.

22 40 CFR Part 54, 36 F.R. 23386.

23 40 CFR §54.3(b), 36 F.R. 23387.

24 40 CFR §54.3(a), 36 F.R. 23387.

25 The state may stay the citizen's right to bring suit under Section 304 by bringing suit in either federal or state court.

against a polluter upon receiving notice of an impending citizen suit. It might be some time later before a citizen would be able to convince a federal judge that the state was not "diligently prosecuting" the suit, and considerable delay might ensue.

## IV. CAUSES OF ACTION

Citizens may seek redress in court for (A) violations of an "emission standard or limitation in effect under the Act," (B) violations of an order issued by the federal Administrator or a state "with respect to such a standard or limitation," or (C) failure of the Administrator to perform a non-discretionary duty.[26]

### A. Emission Standards and Limitations

The Act includes within the term "emission standard or limitation in effect under this Act"

(1) a schedule or timetable of compliance, emission limitation, standard of performance or emission standard, and

(2) a control or prohibition respecting a motor vehicle fuel or fuel additive,

"which is in effect under this Act . . . or under an applicable implementation plan."[27]

The second half of the Act's definition of "emission standard or limitation in effect under this Act" is "a control or prohibition respecting a motor vehicle fuel or fuel additive."[28] Section 211 (c) of the Act allows both the Administrator and states, under certain conditions, to regulate fuels and fuel additives. EPA has recently proposed regulations governing phosphorus and lead additives to gasoline.[29]

The first definition divides into two parts: emission limitations, standards of performance and emission standards form one category; schedules and timetables of compliance another.

As they are used in the Act and EPA regulations, the terms emission limitation, standard of performance and emission standard are virtually interchangeable. The Act makes no effort to distinguish the terms from one another and defines only one.[30] The most common form of air pollution control is a limit on allowable emissions of the pollutant per unit of input to, or output from, the process that produces the pollutant. Sulfur dioxide emissions from fossil fuel electric plants, for example, are commonly limited to a certain number of pounds of sulfur dioxide per million B.t.u.'s of heat input to the boiler, and nitrogen oxides emissions from nitric acid plants are restricted to a certain number of pounds per ton of acid produced. This type of emission restriction may also be measured against time, and may even call for a total elimination of emissions. Compliance with such measures is usually checked by measuring at some point on the source through which all emissions must pass, such as the stack, but other kinds of measurement are also used. Visible emissions are commonly limited to a specific opacity or prohibited altogether. Other measures set concentrations of the pollutant that may not be exceeded in the ambient air near the source.[31]

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26 Section 304(a)(1) & (2), 42 U.S.C. §1857h-2(a)(1) & (2).

27 Section 304(f), 42 U.S.C. §1857h-2(f).

28 *Id.*

29 36 F.R. 3882 (February 23, 1971).

30 Section 111(a)(1), 42 U.S.C. §1857c-6 states that, for the purposes of that section:" 'standard of performance' means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which . . . the Administrator determines has been adequately demonstrated." This definition does nothing to distinguish standard of performance from the other two terms.

31 Such restrictions on emissions, usually measured at the property line of the source, should not be confused with ambient air quality standards. The latter are maximum permissible concentrations of pollutants that will be allowed to occur throughout a given geographical region. Since all the sources in such an area contribute to the ambient concentration of a pollutant within the area, it cannot be said that ambient air quality standards are intended to directly limit the emissions of individual sources. Instead, Section 110 directs states to impose a set of "emission limitations" and other control measures on individual sources that will result in collective achievement of the National Air Quality Standards.



A second type of control measure places conditions directly on the operation of the source, instead of on the content of the emission stream. Such measures usually require use of specific kinds of fuels or raw materials, specific machinery and operating procedures, or modifications of operating schedules. A common process requirement is to limit the sulfur content of coal or oil burned in various kinds of equipment. Processes like asbestos spraying may also be prohibited entirely.

A third type of control measure requires use of a specific emission control device or of a substitute device that will produce equivalent control.

Emission limitations, standards of performance and emission standards may be imposed directly under the Act or under state implementation plans. Five groups of such restrictions are now or will be in effect under the Act:

1. Section 111 requires the federal EPA Administrator to set standards of performance for any category of stationary sources of air pollution that endangers public health or welfare. These standards apply only to newly constructed or modified sources. Final standards for five categories of sources were published on December 23, 1971.[32]

2. Section 112 requires the Administrator to set emission standards for pollutants for which no National Air Quality Standard has been set and which cause or contribute to "an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." Proposed standards for three hazardous pollutants were published on December 7, 1971.[33]

3. Section 111 also requires that, if any standards of performance for new sources extend to pollutants for which there is no National Air Quality Standard and no standard set under Section 112, states must submit to EPA plans under which they will control emissions of that pollutant from *existing* sources. These plans must set emission standards for the pollutant which the state must then enforce. EPA is expected to propose guidelines for submission of these plans in the coming months.[34]

4. Section 202 requires the Administrator to set emission standards for classes of motor vehicles and engines that cause or contribute to pollution that endangers the public health and welfare. Standards applicable to the 1975 and 1976 model years for emissions of carbon monoxide, hydrocarbons and nitrogen oxides from light duty vehicles and engines were set on July 2, 1971.[35]

5. Section 231 requires the Administrator to set emission standards for pollutants from classes of aircraft and aircraft engines that cause or contribute to pollution endangering public health and welfare. No such standards have yet appeared.

State implementation plans also must include "emission limitations...and such other measures as may be necessary to insure attainment and maintenance" of the primary and secondary National Air Quality Standards.[36] Since only parts of a handful of state plans are now in effect, it is difficult to tell exactly what forms these emission limitations and other measures will take, but EPA's

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It is possible for a source to be held responsible for a violation of an ambient standard, but only in the special case where he contributes virtually all of a given pollutant in a region. In such a region, he might be held to have violated an ambient standard, even if he were in compliance with an emission limitation. This point could be an important one for citizen plaintiffs in presently clean areas where major sources of pollution – such as power plants – are proposed to be built.

32 36 F.R. 24876 (December 23, 1971).

33 36 F.R. 23239 (December 7, 1971).

34 Since these plans will not be part of the regular state implementation plans, any standards they contain will be in effect directly under the Act.

35 36 F.R. 12652 (July 2, 1971), 36 F.R. 22448 (November 25, 1971), 37 F.R. 669 (January 15, 1972). For a listing of regulations governing earlier model years, see 37 F.R. 784 (January 19, 1972).

36 Section 110, 42 U.S.C. §1857c-5.

guidelines indicate that the plans may contain the full range of measures described above. Appendix B to the guidelines lists emission limitations EPA thinks are attainable with reasonably available control technology.[37] The list includes, in addition to the common restrictions on the amount of emissions, various process requirements, requirements for use of certain fuels, and limitations on visible emissions. The guidelines also require that state plans incorporate, where necessary to attain National Air Quality Standards, changes in schedules or methods of operation and emission controls on in-use motor vehicles.[38]

The Act also includes "a schedule or timetable of compliance" within the general term "emission standard or limitation in effect under this Act." Such schedules and timetables may be in effect under either the Act or state implementation plans.[39] These terms are nowhere defined, but do appear in the Act's requirement that state plans include "emission limitations, schedules, and timetables for compliance with such limitations."[40] In addition to these, other schedules and timetables appear in the Act and EPA regulations promulgated under it, and state implementation plans are required to contain certain timetables other than those for compliance with emission limitations. All of these should be enforceable through the citizen suit provision.

The Act imposes deadlines directly on the states. States must submit their plans for achieving the primary and secondary National Air Quality Standards within nine months after these standards are set.[41] If the Administrator notifies a state that its plan must be revised to meet new developments in control technology or to correct its own faults, the state must act within 60 days (or such longer period as the Administrator may prescribe).[42]

Under the Act, EPA has promulgated regulations which impose other schedules and timetables on states and polluters. In the guidelines for state implementation plans:

- Sections 420.4(a) and 420.6(c) require 30 days public notice of hearings on proposed plans and revisions of plans.
- Section 420.7 requires submission by the state of quarterly reports to EPA on air quality and semiannual reports on progress in carrying out implementation plans.
- Section 420.15(a)(2) allows schedules for compliance with provisions of plans to be submitted after the deadline for submission of the rest of the plan, but no later than the deadline for the first semiannual report (February 15, 1973).
- Section 420.16(c) imposes the same deadline on submission of control programs for high-pollution emergencies.
- Section 420.16(f) allows a state to meet certain requirements for its high-pollution emergency procedures after submitting the implementation plan, provided that the state submits a timetable for meeting those requirements within a year after the plan submission deadline.
- Section 420.17 requires states to install an air quality monitoring network according to a specific timetable that is no longer than two years.
- Section 420.17(c) requires that air quality monitoring stations that will be used during high-pollution emergencies be operative within one year of the plan's approval.
- Section 420.31(e) requires that any state's request for an 18-month extension of the submission deadline for plans implementing secondary Standards must be made soon enough before the regular deadline to allow a suitable plan to be developed if the extension request is denied.

There is, finally, a particularly important timetable that is in effect under both the Act and every approved implementation plan. The Act places responsibility for achieving and maintaining the National Air Quality Standards on the states,[43] and requires them to submit plans providing for "implementation, maintenance, and enforcement" of the Standards within specified deadlines.[44] It can reasonably be said, therefore, that a state's failure to enforce an implementation plan constitutes failure to meet the National Standards according to the required timetable, and that the state can be sued under the citizen suit provision to compel enforcement of its plan.

Other EPA regulations will impose various deadlines on persons other than the states or the EPA Administrator. The regulations setting standards for categories of new stationary sources, for example, require performance tests within 60 days after startup of such sources and further tests in accordance with a timetable set by the Administrator.[45] Similarly, proposed regulations for hazardous pollutants prescribe timetables according to which emission tests must be conducted and information submitted to EPA.[46]

### B. Orders Concerning Emission Standards and Limitations

The Act also allows citizen suits against any person for alleged violation of "an order issued by the Administrator or a State with respect to [an emission] standard or limitation."[47] The Act allows the Administrator to order compliance with implementation plans, with standards of performance for new stationary sources (set under Section 111), and with emission standards for hazardous pollutants (set under Section 112).[48] Most states are also allowed, and in some cases compelled, to issue similar orders under their own air pollution laws and regulations.[49]

Finally, the Act allows the Administrator to require certain kinds of monitoring, record-keeping, and reporting activities by source owners and operators in order to ascertain compliance with implementation plans and standards set under Sections 111 and 112. State implementation plans will contain similar requirements. These activities are related closely enough to emission restrictions and to timetables so that an order from the Administrator or a state requiring their performance would qualify as "an order with respect to an emission standard or limitation under this Act," and thus be enforceable under Section 304.

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37 36 F.R. 15486, 15495 (August 14, 1971).

38 42 CFR §420.1(n), 36 F.R. 15486.

39 Section 304(f), 42 U.S.C. §1857h-2(f).

40 Section 110(a)(2)(B), 42 U.S.C. §1857c-5(a)(2)(B).

41 Section 107(a), 42 U.S.C. §1857c-2(a) and 110(a)(1), 42 U.S.C. §1857c-5(a)(1). Section 110(b) allows the Administrator to extend this deadline by up to 18 months.

42 Section 110(c)(3), 42 U.S.C. §1857c-5. §420.6(e) of the guidelines modifies this deadline by allowing submission of certain revisions of plans semiannually. 42 C.F.R. §420.6(e), 36 F.R. 15489.

43 Section 107(a), 42 U.S.C. §1857c-2(a).

44 Sections 110(a)(1) & (a)(2)(A), 42 U.S.C. §1857c-5(a)(1) & (2)(A).

45 42 CFR §466.15(a), 36 F.R. 24876.

46 40 CFR §§61.09, 61.34, 61.37(b), 61.55, 61.59, 36 F.R. 23239. *See also* the regulations setting motor vehicle emission standards, *supra*, note 35.

47 Section 304(a)(1), 42 U.S.C. §1857h-2(a)(1).

48 Section 113, 42 U.S.C. §1857c-8. This provision would seem to add another means for using Section 304 to compel states to enforce their implementation plans. Section 113(a)(1) allows the Administrator to issue an order compelling "any person" to comply with "any requirement" of an applicable implementation plan. Since a state is a "person" (Section 302(e)), and since one requirement of any implementation plan must be that the state enforce it in order to meet the ambient standard it implements on time (*see* page xxxi), the Administrator could issue an order requiring a state to enforce its plan, and such an order could be enforced under Section 304.

49 Though issued under state laws and regulations with the purpose of enforcing those laws and regulations, states' orders are nevertheless made "with respect to" emission standards and limitations in effect under the federal Clean Air Act. State implementation plans – including emission standards and limitations, and enforcement procedures – are made up of state laws and regulations but, once approved by EPA, go into effect under the federal Act.

### C. Suits Against the Administrator

A citizen can sue the EPA Administrator to require the performance of any duty under the Act which is not discretionary. But many provisions that appear in non-discretionary form are in practice discretionary, and many others allow citizen plaintiffs to force the Administrator to do a good deal less than it appears. We attempt a categorization of these provisions here, but each should be examined individually to deter ne exactly what it requires the Administrator to do.

Many provisions make simple, clear, inescapable requirements of the Administrator. Section 110 (c)(1), for example, states that

> the Administrator shall, after consideration of any State hearing record, promptly prepare and publish proposed regulations setting forth an implementation plan, or portion thereof, for a State if . . . the State fails to submit an implementation plan for any national ambient air quality primary or secondary standard within the time prescribed.

Or, Section 111(b)(1)(B) requires that, within 120 days after certain stationary sources are identified,

> The Administrator shall propose regulations, establishing federal standards of performance . . . .
>
> The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within 90 days after such publication, such standards with such modifications as he deems appropriate.

The duty and the time or conditions under which it must be performed are clear and unvarying; failure to perform the duty is easy to demonstrate. The usefulness of the numerous provisions of of this sort is sometimes limited by their simplicity. Often citizens will want to influence the content of what the Administrator does, but a provision will require only that the Administrator act and will say little about how the act is to be carried out. Thus Section 111(b)(1)(B) says nothing about how new source standards are to be set other than to require opportunity for public comment. Nor does the Section say anything about the content of the standards beyond the definition of "standard of performance" which grants the Administrator discretion in setting the standard.[50] Thus a citizen plaintiff can sue the Administrator for failure to set standards on time and failure to allow public comment, but for little else.

In contrast, although Section 110(c)(1) says nothing about the content of the implementation plans the Administrator must propose if a state fails to submit any plan, the extensive requirements imposed by Section 110(a)(2) on states' plans would certainly apply to EPA's plans as well. Thus a citizen plaintiff would probably be able to sue the Administrator for failure to perform the non-discretionary act of proposing and promulgating a plan if he presented a plan that did not meet these requirements.

Similarly, Section 108(a)(2) requires the Administrator to issue air quality criteria for any air pollutant he has previously listed as harmful to public health and welfare. This requirement is followed by a series of specific conditions the criteria must meet, all of which can be taken as part of the non-discretionary requirements for issuance of air quality criteria.[51] In this, as in the previous example, the extent to which the additional conditions will be enforceable as part of the Administrator's non-discretionary duty is limited. For instance, the requirement that new air quality criteria "shall accurately reflect the latest scientific knowledge"[52] is non-discretionary in form, but in practice leaves the determination of what the latest scientific knowledge is and how it should be reflected in the criteria to the discretion of the Administrator. Courts will be reluctant to judge whether his determination is "accurate". A suit to enforce conditions like these is most likely to be successful where it can be shown that a clearly defined body of relevant material has been ignored.

In other cases, failure to perform an act will be more difficult to demonstrate, even though the requirement for its performance is stated clearly and in non-discretionary form. Section 103(a), for example, requires the Administrator to perform a series of cooperative research ventures on air pollution.[53] There is no timetable or deadline specified. The acts themselves, moreover, are not clearly defined. Thus it will be difficult to get a court to rule that the Administrator has failed to perform his duty, unless there has been complete failure to perform over a long period of time.

## V. OBTAINING THE INFORMATION NEEDED FOR A CITIZEN SUIT

Information is the backbone of any successful suit against a polluter. This is recognized in the Senate Report:

> The information and other disclosure obligations required throughout the bill are important to the operation of this provision [Section 304]. The [Administrator] would have a special duty to make meaningful information on emitting sources available to the public on a timely basis.[54]

The critical points are monitoring and reporting. When a source must install continuous monitoring equipment and make results publicly available, including tape read-outs and other continuously gathered records, a citizen plaintiff should be able to base a suit on the polluter's own data.

Federal law allows the Administrator to impose monitoring and reporting requirements on any source owner,[55] and requires that any records, reports, or information obtained shall be available to the public, unless a polluter can prove to the satisfaction of the Administrator that the information is a bona-fide trade secret.[56]

Administrator Ruckelshaus has not chosen to exercise this power so far. The federal guidelines for implementation plans require only that the *state* submit periodic reports to EPA on "air quality" and "progress in carrying out the applicable plan."[57] But the regulations also require that state

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50 Section 111(a)(1), 42 U.S.C. §1857c-6(a)(1).

51 "Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities. The criteria for an air pollutant, to the extent practicable, shall include information on:

> "(A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;
>
> (B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and
>
> (C) any known or anticipated adverse effects on welfare." Section 108(a)(2), 42 U.S.C. §1857c-3.

52 *Id.*

53 Section 103(a)(1), 42 U.S.C. §1857b(a)(1).

54 Sen. Rep. at 38.

55 Section 114(a)(1), 42 U.S.C. §1857c-9(a)(1).

56 Section 114(c), 42 U.S.C. §1857c-9(c).

57 42 CFR §420.7(a) & (b), 36 F.R. 15489.

plans make publicly available the emission data reported by source owners or otherwise obtained by the agency and that the data be "correlated" with emission limitations or other measures, i.e.

> presented in such a manner as to show the relationship between measured or estimated amounts of such emissions allowable under the applicable emission limitations or other measures.[58]

EPA also requires that owners or operators of new or modified stationary sources submit information to the state agency on the nature and amounts of emissions, and the design, construction and operation of such sources, in order to determine whether the proposed construction or modification will violate the state control strategy or interfere with the attainment or maintenance of a National Air Quality Standard.[59] For existing sources, EPA requires that state plans provide for monitoring to assure compliance with state rules and regulations.[60]

To varying degrees, it may be argued that the record-keeping and reporting requirements in the guidelines have been imposed under the authority of Section 114 of the Act, and therefore carry with them the requirement of public availability.[61] Whether data required by the Administrator to be submitted to the state, but not to the federal EPA, qualifies as data required under Section 114 is not a closed question, but a good argument can be made that it is so required. It is more uncertain whether data submitted pursuant to the Administrator's regulations requiring a state to establish legally enforceable procedures for its collection is data required by the federal Administrator,[62] and therefore available to the public under Section 114.

Each state also has data-gathering and reporting provisions in its implementation plan. Most states provide for the minimum data collection and public availability required by federal law. Many states provide that only emission data, of unclear thoroughness and specificity, is required from polluters, and only emission data submitted to or gathered by the agency will be unconditionally available to the public. Many states have much broader loopholes for "trade secrets" or "confidential information" than Section 114(c) of the federal law. As a result, citizen plaintiffs may often find it more difficult than it should be to obtain the information they need.

Federal discovery rules will, of course, apply in Section 304 suits, and data may be obtainable by this means. But many corporations simply will not keep thorough records in the form needed for litigation if they are not required to by their state agency. Hence discovery, while always a valuable tool, may not provide the information needed by the citizen plaintiff.

Citizens may also be able to stimulate federal action against a polluter by making a *prima facie* showing of a violation to the Administrator, and asking him to invoke his powers under Section 114 to force the source to keep adequate records. These records would then become available to the public by operation of Section 114(c). A similar showing might also prod a state agency to require such data gathering.

Failing these methods of obtaining information, a citizen can turn to his or her state agency. This might produce evidence before litigation is commenced at no cost to the citizen, but it is a matter of agency discretion whether to supply the information to the citizen. The last resort is for the citizen to collect information directly; this is costly, difficult and time-consuming.

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58 42 CFR §420.10(e), 36 F.R. 15489.

59 42 CFR §420.18(b), 36 F.R. 15493.

60 42 CFR §420.19(a), 36 F.R. 15493.

61 In proposing these regulations, the Administrator invoked Section 301(a) of the Act, which grants him general power to promulgate regulations to carry out the provisions of "this Act." Hence the legal authority on which the regulations are based is not limited to Section 110, the section dealing with implementation plans. As a result, legal authority can be sought elsewhere in the Act – i.e., in Section 114.

62 *See* Section 114(a) & (a)(1), 42 U.S.C. §1857c-9(a) & (a)(1).

## VI. OTHER MEANS FOR OBTAINING FEDERAL ENFORCEMENT – SECTION 113

Citizens should not overlook the possibility of bringing the federal EPA into enforcement through the "finding" procedures of Section 113. Under this section, the federal Administrator must[63] take action if, "based on any information available to him", he makes any of the following "findings:"

> (1) that any person (e.g., a polluter or a state agency) is violating any applicable provision of a state implementation plan; or
>
> (2) that violations of an applicable implementation plan are so widespread as to "appear to result from a failure of the State ... to enforce the plan effectively."[64]

Whenever the Administrator makes either of these findings, he must give notice to the affected person. In addition, he *may*, after giving notice, or after making a finding that a person is violating a requirement imposed under Section 114, issue an order or commence a civil action of his own against the violator.[65]

For citizens, the value of these provisions is that they provide a mechanism for setting federal enforcement machinery into motion. Citizens can submit documented information to the Administrator and formally request that he act under the powers granted him by the Act.

## VII. THE COSTS OF A CITIZEN SUIT AND HOW TO PAY THEM

Whether citizens will be able to act as a major enforcement arm for the Clean Air Amendments depends on whether they can shoulder the financial burden to see a case through.

Section 304(d) gives the court discretion to grant litigation costs, including reasonable expert witness and attorney's fees, "whenever the court determines such an award is appropriate."[66] This provision must be read along with the intent of the legislature:

> The Courts should recognize that in bringing legitimate actions under this section citizens would be performing a public service and in such instances the courts should award costs of litigation to such party. This should extend to plaintiffs in actions which result in successful abatement but do not reach a verdict. For instance, if as a result of a citizen proceeding and before a verdict is issued, a defendent abated a violation, the court may award litigation expenses borne by plaintiffs in prosecuting such actions.[67]

The fees provision does not go as far as it might. The Act does not provide for recovery of damages by the plaintiff. The plaintiff can never be certain he will receive anything towards his costs and fees, and if he does, payment will not come until the end of what may be drawn-out and expensive proceedings. Also, the court may require a bond whenever a citizen plaintiff asks for a temporary injunction or restraining order. Finally, costs and fees can also be granted to a *defendant* if the court finds that a plaintiff's suit was not meritorious.[68]

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63 That is, he has a non-discretionary duty to take action within the meaning of Section 304.

64 Section 113(a)(1) & (2), 42 U.S.C. §1857c-8(a)(1) & (2).

65 Section 113(a)(3), 42 U.S.C. §1857c-8(a)(3).

66 Section 304(d), 42 U.S.C. §1857h-2(d).

67 Sen. Rep. at 38.

68 Section 304(d), 42 U.S.C. §1857h-2(d).

The dangers lurking in Section 304's provision for bonds may have been substantially reduced by a number of recent court decisions. In *Natural Resources Defense Council v. Morton*, – F. Supp. –, 3 ERC 1473 (D.D.C. 1971), three public interest groups (NRDC, Friends of the Earth, and the Sierra Club) obtained a preliminary injunction against the lease for oil and gas drilling of more than 300,000 acres of land off the Gulf Coast on the grounds that the Department of Interior's NEPA statement was inadequate. Interior asked for a bond of $750,000 immediately plus $2,500,000 for each month's delay caused by the temporary injunction. The court, noting that federal judges were granted great discretion with respect to requiring bonds, held that requiring three non-profit organizations to post bond in such an amount would have the effect of denying them judicial review of the Department's actions under NEPA, and that since this would "stifle the intent of the Act,"[69] the court would not grant the requested bond. The court also pointed out the value of the other public interests in the Gulf Coast area, such as the fish and shell fish industries, the fact that the area is a great habitat for marine and other wildlife, and its value for recreation. It set bond in the amount of $100.00 with the statement:

> The Court believes that the public interest will be far more gravely damaged by failure of the courts to rigorously and consistently enforce NEPA than by any harm which could possibly result from delaying this lease sale long enough to resolve the important legal issues presented by this suit.[70]

In view of this and other similar decisions,[71] it does not seem likely that federal courts will require large bonds for suits under Section 304. The policy of the Clean Air Amendments strongly favors citizen enforcement, and federal courts should be at least as reluctant to impose bonds which would effectively prevent citizens from suing under this Act as under NEPA. Citizens should also be able to counter polluters' cost arguments with the argument used by the court in *NRDC v. Morton*, concerning the other public values, namely public health and welfare, which are served by making it possible for citizens to bring suit under Section 304.

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69 3 ERC 1473, – F. Supp. –, (D.D.C. 1971).

70 3 ERC at 1476, – F. Supp. –.

71 The court also cited a number of other cases where nominal bonds had been required of environmental groups suing in the public interest: *Environmental Defense Fund v. Corps of Engineers* (Tennessee Tombigbee), 3 ERC 2085, – F. Supp. – (D.D.C. 1971) ($1.00); *West Virginia Highlands Conservancy v. Island Creek Coal Co.*, 2 ERC 1422, – F. 2d – (4th Cir. 1971) ($100.00); and *Wilderness Society v. Hickel*, 1 ERC 1335, – F. Supp. – (D.D.C. 1970) ($100.00).

## LEGAL HELP

Many non-profit organizations do not know where to turn when looking for help with legal matters. There is a source of aid and support in the New York–New Jersey–Connecticut Metropolitan area which should be more fully utilized. The Council of New York Law Associates provides volunteer legal assistance to non-profit organizations engaged in *pro bono publico* programs. The majority of the Council's 1,500 members are associates in Wall Street or Park Avenue firms who have used and developed their expertise in projects ranging from legislative drafting to full scale litigation. Attorneys in the Council take on *pro bono* projects and cases on a part-time basis. There are similar Councils in other parts of the country and information on them can be obtained through the New York Council.

In addition, many attorneys in the Council are interested in full time employment with non-profit and public interest groups both in New York and across the country. The Council runs a free placement service and is very interested in hearing from groups looking for full-time attorneys.

For further information on all aspects of the program, contact Susan Belgard, Director, Public Service Placement Bureau, Room 510, 36 West 44th Street, New York, New York 10036 (212 972-9370).

EXHIBIT 2

OPINION OF THE COURT IN THE CASE OF

HARLEM TRANSPORTATION ASSOCIATION, ET AL., v.

GEORGE M. STAFFORD, ET AL.,

73 CIV. NO. 1330 (D.C.S.D.N.Y., JUNE 21, 1973)

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the court to vacate the Comp-

*York* v. *United States*, *supra*, confronted a similar problem ether to vacate an Interstate mmission order authorizing a small railroad line. There, mmission totally failed to con- ntal factors [2] in a proceeding d raised "a substantial ques- damage to the environment", 159, n. 11. After noting that er to remand for what may rtualistic act," *id.* at 159, the the application to the Inter- Commission concluding that ions do not justify the Com- rd of the law," *id.* at 160. ever, refused to vacate the der:

not compelled. In reviewing n's action, we sit as a court vers, and as such 'may adjust gencies of the case in accord- rquitable principles govern- ion. The purpose of judicial nant with that of the adminis- ding itself,—to secure a just nimum of technical require-

*Hanly II*, 471 F.2d at 836. *York*, the special circum- this court's refusal to va- ller's preliminary decision. as taken all relevant factors ended by NEPA, and it ap- tial decision will not ulti- should the order be vacated consider *ab initio*.

*NCLUSION*

t must decide whether re- troller for further review of sistent with the procedural PA is warranted.[24] For the e in this opinion, the court mptroller's failure to com- al requirements of the Act

e applicability of NEPA was by plaintiffs on appeal of the

ork, Judge Friendly sent the for abandonment back to the Commission for reconsider- ing, however, the Interstate 's final order remained in ef- s find it necessary to remand ant consider the question of ller's statutory authority or to continue his review of an charter while the bank itself operations.



in this case does not justify further suspension of his order.[25] In so deciding, the court finds itself in the position of adding to a trend which protests its concern for NEPA, and yet finds that NEPA's technical provisions have been violated,[26] and overlooks these violations in favor of the final agency decision. However, in reaching a conclusion on remand, this court must balance the public interest against the demonstrated environmental costs of the Comptroller's action. Cf. *Calvert Cliffs Coordinating Committee v. USAEC*, ____ U.S. App. D.C. at ____, 449 F.2d at 1123 [2 ERC 1779]. The court, therefore, finds that the Comptroller's decision to create the Second National Bank of Homestead should not be upset.

For the foregoing reasons, the court will deny the motion for preliminary injunction by plaintiffs and dismiss the complaint. Fed.R.Civ.P. 12(b)(6). The court does not find it necessary to expressly rule on the cross motions to dismiss by the defendant Comptroller and the defendant-intervenor Bank.

It is, therefore, this 15th day of June, 1973,

ORDERED that plaintiffs' motion for a preliminary injunction be, and it hereby is, denied; and it is further

ORDERED, that the complaint herein be, and it hereby is, dismissed.

[25] It might be argued that this decision may work to subvert the integrity and purpose of NEPA. See Calvert Cliffs Coordinating Committee, Inc. v. United States Atomic Energy Comm., ____ U.S. App. D.C. ____, 449 F.2d 1109, [2 ERC 1779] (1971); City of New York v. United States, *supra*. However, preservation of the integrity of the Act requires that it be shielded from the abuse and misuse which would result if the Act is used in the circumstances of this case simply to delay the Comptroller's actions. Cf. Hanly II, *supra*, at 837 (Friendly, C. J., dissenting).

[26] See, e.g., Hanly I & II, *supra*; City of New York v. United States, *supra*.

## HARLEM VALLEY v. STAFFORD

**U.S. District Court**
**Southern District of New York**

HARLEM VALLEY TRANSPORTATION ASSOCIATION, et al., v. GEORGE M. STAFFORD, et al., No. 73 Civ. 1330, June 21, 1973

**LAND**

**1. Federal, state, and local regulation — Transportation — In general (§8.351)**

**Court jurisdiction and procedure — Parties — Standing (§15.212)**

Environmental groups alleging that abandonment of railroad lines will cause their members economic injury and personal inconvenience and will subject them to increased noise and air pollution stemming from increased truck traffic have standing to bring federal district court suit challenging Interstate Commerce Commission's refusal to comply with National Environmental Policy Act prior to its commencement of hearings on proposed abandonment.

**2. Federal, state, and local regulation — Transportation — In general (§8.351)**

**Federal, state, and local regulation — Administrative agencies — Procedure before agencies (§8.621)**

National Environmental Policy Act requires Interstate Commerce Commission to determine, prior to commencement of any commission proceedings on proposed railroad line abandonment, whether abandonment proceeding constitutes major federal action significantly affecting environment and, if so, to prepare and circulate environmental impact statement concerning abandonment's environmental effects.

**STATUTES**

**Federal — National Environmental Policy Act (§95.011)**

**Construed.**

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William Hoppen, New York, N.Y., for Harlem Valley Transportation Association, Thomas L. Creel and Stuart J. Sinder, New York, for Natural Resources Defense Council.

Fritz R. Kahn, general counsel, Arthur J. Cerra, deputy general counsel, and James F. Tao, Interstate Commerce Commission, Washington, D.C.; Paul J. Curran, U.S. attorney, Christopher Roosevelt, and Daniel Riesel, assistant U.S. attorneys, New York, for defendants.



*Full Text of Opinion*

FRANKEL, D. J.

Plaintiffs seek declaratory and injunctive relief against alleged violations of the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 *et seq.* (1970) ("NEPA"), in the procedures attendant upon abandonments of rail lines under the jurisdiction of the Interstate Commerce Commission. The plaintiffs are an array of public-interest corporations and associations, business corporations, and individuals variously interested in continued rail service, the quality of the air they breathe, and the quality of their environment more generally. They invoke the jurisdiction of this court under an array of statutes only some of which need be mentioned, as they are in the margin.[1]

In a complaint amended speedily during the pendency of motions now to be decided, the plaintiffs seek to maintain the proceeding as a class action under Fed. R. Civ. P. 23(b)(2), alleging that they can and do represent

> "those adversely affected by the failure of defendants to carry out their statutory duties under the National Environmental Policy Act * * * with regard to the proposed abandonment of rail lines in the Northeast and in the United States and in the performance of their administrative duties under the law, particularly as they relate to restructuring of railroads in the Northeast, and generally those citizens and residents of the United States who are or who will be injured by the abandonment of rail service and rail lines in particular states of the United States in which such abandonments are or may be proposed by the carriers and approved by the Interstate Commerce Commission without compliance with the law aforesaid."[2]

Defendants are the ICC, its Chairman, and, unimportantly for present (and probably all) purposes of this case, the Administrator of the Environmental Protection Agency.[3]

Plaintiffs have moved for a temporary injunction. Simply but sufficiently stated for introductory purposes, their prayer is that the ICC be enjoined pendente lite from going forward with proposed rail abandonment proceedings unless a draft environmental impact statement has been prepared and circulated by the Commission staff prior to any hearings as required, according to plaintiffs, by § 102(2)(C) of NEPA, 42 U.S.C. 4332(2)(C).

According to the complaint and essentially

[1] Defendants have not questioned the jurisdiction of the district court except for the contention of the ICC that the case should be before three judges rather than one. That contention is discussed and overruled at a later point in the text of this opinion. As to the grounds of jurisdiction apart from that, the court holds that the case is properly here at least under 28 U.S.C. § 1361 (1970), the so-called mandamus provision. See, e.g., Roberts v. United States, 176 U.S. 221, 231 (1900); Langevin v. Cheyenne Court, Inc., 447 F.2d 296, 300 (2d Cir. 1971); Peoples v. United States Department of Agriculture, 427 F.2d 561, 565 (D.C. Cir. 1970); Earls v. Resor, 327 F.Supp. 354 (S.D. N.Y. 1970); Cares v. Local Draft Bd. No. 2, Hartford, Conn., 297 F.Supp. 252 (D. Conn), aff'd, 412 F.2d 71 (2d Cir. 1969).

Additional or alternative bases for the jurisdiction of the court would appear to exist in the Administrative Procedure Act, 5 U.S.C. § 701 *et seq.* (1970), see Citizens Committee for Hudson Valley v. Volpe, 425 F.2d 97, 101-102 [1 ERC 1237] (2d Cir.), cert. denied, 400 U.S. 949 (1970); Kletschka v. Driver, 411 F.2d 436, 445 (2d Cir. 1969); Toilet Goods Assoc'n v. Gardner, 360 F.2d 677, 679 n.1 (2d Cir. 1966), aff'd, 387 U.S. 158 (1967), along with (or as well as) 28 U.S.C. § 1331 (1970).

It is of at least passing interest to note that the complaint in Hanly v. Mitchell, 460 F.2d 640 [4 ERC 1152] (2d Cir.), cert. denied, Hanly v. Kleindienst, ____ U.S. ____ [4 ERC 1745] (1972), another controversy concerning NEPA procedures, invoked a number of jurisdictional bases, including NEPA itself, which seem to have been so clearly sufficient that neither Judge Tenney in this court nor the Second Circuit in its review appears to have found occasion to deal expressly with the subject.

[2] In order to supply clarification of plaintiffs' class-action allegations and to make more precise some subjects discussed during oral argument, the court suggested the filing of an amended complaint at the hearing of the motion for a preliminary injunction on June 6, 1973. The defendants have raised the technical objection that "leave" for such an amended pleading had not been given. In the circumstances, the objection is without merit. Leave is now given to do what the court proposed.

Furthermore, the subject has become inconsequential. One of the court's main concerns during the hearing of the motion for a preliminary injunction was the question whether the plaintiffs, if they could prove entitlement to any relief, could legitimately seek a restraint of nationwide effect when their alleged interests might be of narrower geographic scope. Both the United States and the ICC have now not only conceded, but insisted, that a preliminary injunction in this case would "affect the agency in the entire scope of its authority and jurisdiction." Defendants' Supplemental Memorandum 4. Reiterating this, the defendants say:

> "Any action by this Court based on plaintiffs' individual interests and the public interest will affect the agency's procedures and the application of said procedures anywhere within the scope of the agency's jurisdiction." *Id.* at 4-5.

In these circumstances, it becomes unimportant to decide at this early stage whether the action may proceed as a class suit. The court will, therefore, leave this determination to be made in the normal course pursuant to our District's Civil Rule 11A(c).

[3] It was acknowledged in oral argument that no relief is now sought against the EPA through the motion being decided today.

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undisputed portions of the motion papers, there are now pending, in the northeast and elsewhere across the country, a number of proceedings and proposed proceedings under 49 U.S.C. § 1(18)-(20)(1970) wherein the ICC is asked to approve abandonment of all or portions of lines of railroads or the operation thereof. Such abandonments, if allowed, will or may in specific cases have environmental impacts of varying kinds and degrees, most importantly perhaps on air quality because of the increased pollution produced by increased truck and auto traffic. In addition, though less significantly for our immediate concerns, plaintiffs charge that the ICC is considering individual abandonment proposals in isolation from each other and that the failure to consider effects "on the rail transit system as a whole is in violation of national environmental policy and • • • national transportation policy."

Of direct interest at the moment is plaintiffs' claim of non-compliance with NEPA § 102(2)(C), which provides:

> "The Congress authorizes and directs that, to the fullest extent possible • • • (2) all agencies of the Federal Government shall—
>
> • • •
>
> "(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
>
> "(i) the environmental impact of the proposed action,
>
> "(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> "(iii) alternatives to the proposed action,
>
> "(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
>
> "(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.
>
> "Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of Title 5, and shall accompany the proposal through the existing agency review processes."

To particularize plaintiffs' claim as it came to be specified in the course of briefing and oral argument, they concede that (a) an environmental impact statement is required only for "major Federal actions significantly affecting the quality of the human environment," (b) the threshold determination whether an "action" falls within this class is, at least initially, for the responsible agency, and (c) a negative decision on this question in any particular abandonment proceeding may be deemed beyond the reach of the injunctive relief sought herein. What plaintiffs assail is the ICC's view that NEPA § 102(2)(C) requires no agency action in an abandonment proceeding until the initial decision, *following a hearing*, by the administrative judge. It is plaintiffs' contention that the agency must (1) determine at the outset if the particular proceedings involve "major Federal actions significantly affecting the quality of the human environment," and, if the answer to that is affirmative, (2) require its staff to prepare and circulate a draft impact statement prior to the commencement of any hearing, so that evidence and argument may be adduced with reference to the draft. In their motion now to be decided plaintiffs seek a preliminary injunction enforcing these contentions.

Opposing the motion on the merits, the ICC argues that NEPA "does not require the issuance of an environment impact statement prior to any hearing on a proposed abandonment."[4] In this, reflecting one of the recurrent but still quaint charms of our political and legal system,[5] the executive comes disunited to the courthouse: the "United States," as the Department of Justice is permissibly styled, shares plaintiffs' view that a draft impact statement is required before the hearing.[6] On a logically prior question, however, the two agencies are agreed that plaintiffs' action, or at least their pending motion, must be rejected. Thus, both the ICC and the Department of Justice argue that the suit is barred because of failure to exhaust administrative remedies.

To this threshold defense, the ICC alone adds two others:

(1) The action is properly for a three-judge court under 28 U.S.C. §§ 2284 and 2321-2325 (1970), with the United States as a defendant, so that plaintiffs have erred fatally in (a) coming to a single district judge and (b) failing to name the United States as a defendant.

(2) The plaintiffs lack standing.

It is convenient, if not compulsory, to treat the issues in a legally logical order.

1. *A three-judge court is not required.*

This subject is not without interest and complexity. The court concludes, however, that it is suitable for narrow decision in the circumstances of this case, and that the claimed requirement of three judges is not applicable.

The position that this case is for a three-judge court had its inception when plaintiffs were thought to be attacking orders of abandonment already issued.[7] It became clear, however, in the course of hearing the present motion, that no such attack was genuinely intended. Plaintiffs have now concluded that they are not seeking in this action to enjoin or set aside any authorizations already issued by the ICC allowing abandonment of lines or their operation.

A further limitation on the nature of the issue should be noted. The ICC claims that its regulation governing this matter does not call for a draft impact statement at the initial stage when plaintiffs claim it is required. The position is that this suit seeks to invalidate "procedures • • • prescribed by an agency order • • • [which] may only be attacked by a three-judge district court which alone possesses the authority to enjoin or set them aside."[8] The Commission invokes for this argument such cases as Frozen Food Express v. United States, 351 U.S. 40 (1956, and Lambert Co. v. Balt. & Ohio R.R. Co., 258 U.S. 377 (1922).

It is perhaps a sufficient answer that the cases on which the ICC relies involved regulations having the nature of substantive law—i.e., being determinative or dispositive of substantive rights rather than procedural incidents in the administrative process. See also Columbia System v. United States, 316 U.S. 407 (1942).

Whether or not that is sufficient, another circumstance seems important in this case. The ICC acknowledges that at the time of the decision of Greene County Planning Bd. v. Federal Power Commission, 455 F.2d 412 [3 ERC 1595] (2d Cir.), cert. denied, 409 U.S. 849 [4 ERC 1752] (1972), now found to be controlling in this case (see *infra*), there was no ICC regulation governing the procedural question before us. On the contrary, the ICC at that time represented, both to our Court of Appeals and to the Supreme Court, that *Greene County*, unless overturned, would require draft impact statements at the outset of the hearings in ICC cases. The ICC concedes that if the situation had remained in that posture, there being no regulation providing a procedure different from that ordered by *Greene County*, this would be a proper case for a single judge rather than three judges.

In these peculiar circumstances, it seems insubstantial to claim that the ICC's adoption of a supervening regulation, assertedly altering what it saw *Greene County* to state, should aggrandize this case to the status of one under the Urgent Deficiencies Act.

Finally, quite apart from this peculiarity of this specific case, there is apposite precedent limiting the Urgent Deficiencies Act jurisdiction. Three-judge court review will not lie where the order complained of is "one which does not command the [party] to do, or to refrain from doing, any thing; which does not grant or withhold any authority, privilege or license; which does not extend or abridge any power or facility; which does not subject the [party] to any liability, civil or criminal; which does not change the [party's] existing or future status or condition; which does not determine any right or obligation." United States v. Los Angeles R.R., 273 U.S. 299, 309-10 (1927). See also Columbia System v. United States, *supra*. In this case no rights have been determined by the administrative action in question. The effort, as hereinafter characterized, is simply one to enforce compliance with a plain legal requirement governing the agency's proceeding. It follows, therefore, within the rule of Kansas City So. Ry. v. I.C.C., 252 U.S. 178 (1920), that this is a proper case for consideration of mandamus by a single judge rather than the kind of cumbersome review (with direct access to the Supreme Court) provided for cases within the Urgent Deficiencies Act.

2. *The exhaustion doctrine is not a bar.*

The ideas of "exhaustion" and "finality" as prerequisites for review of administrative orders are sometimes amorphous and sometimes difficult to keep neatly separate. See Gellhorn & Byse, *Administrative Law* 213 (5th ed. 1970). So the court should not and does not claim certainty when it expresses the view that defendants here probably mean to be claiming non-finality rather than failure to exhaust in their contention that this action is premature. See Environmental Defense Fund, Inc. v. Ruckelshaus, 439 F.2d 584, 589 n.8, 591 [2

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[3] ICC Memorandum of Law in Opposition 1a.

[4] Cf., e.g., Secretary of Agriculture v. United States, 350 U.S. 162 (1956); United States v. I.C.C., 337 U.S. 426 (1949).

[5] Without dissent from any party or the court, separate briefs have been filed and separate counsel have appeared for Justice and the ICC.

[6] ICC Memorandum of Law in Opposition 6b.

[7] As noted earlier, the pertinent statutes are 28 U.S.C. §§ 2284 and 2321-25 (1970). The focus is, of course, on 28 U.S.C. § 2325, which provides for a three-judge court determination of an application for an interlocutory injunction "restraining the enforcement, operation or execution, in whole or in part, of *any order* of the Interstate Commerce Commission" (emphasis added).

[8] I.C.C. Memorandum of Law in Opposition 6b.

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ERC 1114] (D.C. Dir. 1971). At any rate, however denominated, the argument is unsound.

It seems sufficient to cite for this point, as well as the merits, the decision in Greene County Planning Bd. v. Federal Power Commission, 455 F.2d 412 [3 ERC 1595] (2d Cir.), cert. denied, 409 U.S. 849 [4 ERC 1752] (1972). There, in the early stages, the Federal Power Commission sought dismissal of the review proceeding upon the asserted ground that the order refusing a draft impact statement under NEPA was "interlocutory" and therefore unreviewable. While that argument was dropped when the case came to be briefed on the merits, a similar position was taken with respect to the Commission's order denying petitioner's request for attorneys' fees and expenses for conducting the administrative proceeding. The Court of Appeals rejected the argument and reviewed the question of fees and expenses. 455 F.2d at 425-26.

The reasons making both the NEPA and the fees-and-expenses questions reviewable there are applicable here. The NEPA problem is substantially identical. The other question in *Greene County* is identical in principle. The orders in each instance are complete, likely to wreak irreparable injury if wrong,[9] and effectively reviewable only now rather than later. See also Environmental Defense Fund, Inc. v. Ruckelshaus, *supra* at 589, 592 n. 20.

3. *Plaintiffs make a sufficient showing of standing.*

Various members of the plaintiff organizations and the other plaintiffs, all of whom reside or have businesses located in the Harlem Valley region, have submitted affidavits alleging injury from the defendants' failure to comply with both procedural and substantive NEPA requirements. As to the specific matter of a draft impact statement, plaintiffs contend that they have limited resources, and will be unable effectively to present and analyze environmental factors at the hearings in the absence of such a statement prepared in advance by the ICC staff. The hearing records on environmental considerations are therefore likely to be inadequate, enhancing the prospects of improvident abandonments approved at unlawful costs in environmental injury. Consequently, as residents of the Harlem Valley, plaintiffs contend they will be made wrongfully to suffer from increased noise and air pollution caused by increased truck traffic. In addition, plaintiffs allege both economic injury and personal inconvenience from the loss of rail transportation.

[1] These assertions are sufficient, and sufficiently documented for present purposes, to confer standing. United States v. Students Challenging Regulatory Agency Procedures, ___ U.S. ___, ___ ___ [5 ERC 1449] (1973). "Aesthetic and environmental well-being, like economic well-being, are important ingredients of the quality of life in our society and the fact that particular environmental interests are shared by the many rather than the few does not make them less deserving of legal protection through the judicial process." Sierra Club v. Morton,, 405 U.S. 77, 734 [3 ERC 2039] (1972).

It is clear, as shown in the two Supreme Court decisions just cited, that plaintiffs' alleged injuries are within the zone of interests protected or regulated by NEPA. Cf. Data Processing Service v. Camp, 397 U.S. 150 (1970). The congressional purpose in promulgating NEPA was, in part, to "promote efforts which will prevent or eliminate damage to the environment * * * and stimulate the health and welfare of man," 42 U.S.C. § 4321. NEPA proclaims the "critical importance of restoring and maintaining environmental quality to the overall welfare and development of man," 42 U.S.C. § 4331(a). It decrees that "each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment." 42 U.S.C. § 4331(c). Those are the ultimate substantive goals to which NEPA, including its provisions for impact statements, is addressed.

The plaintiff organizations have standing to sue on behalf of their injured members. See Sierra Club v. Morton, supra at 739. Without depreciating the role of any plaintiff, we may note that the Natural Resources Defense Council (NRDC), a non-profit national organization with approximately 10,000 members or contributors, is particularly fitted to bring this suit for its members. As part of its activities, the NRDC has long been concerned with NEPA problems. It has repeatedly participated in the formulation of agency rules implementing NEPA, including rules of the Council on Environmental Quality. In addition, NRDC has participated in hearings and public review of proposed highway transportation plans, engaged in a year-long survey of federal energy policy decision-making, and prepared and disseminated educational materials concerning provisions of the significant 1970 amendments to the Clean Air Act, 42 U.S.C. § 1857 *et seq.* As part of the latter project, NRDC representatives have testified at Senate hearings overseeing implementation

[9] The term "irreparable" may be literally debatable, but it applies here as it did in *Greene County*. There as here, the agency's action, if erroneous, could later have been "repaired" by having the hearing process done all over after reversal of a "final" order.



of the amendments and engaged in litigation testing the Environmental Protection Agency's interpretation of those amendments. In sum, the interest and expertise of this plaintiff, when exerted on behalf of its directly affected members, assure "that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination of difficult * * * questions." Baker v. Carr, 369 U.S. 186, 204 (1962).

4. *Plaintiffs are entitled to a temporary injunction*

As mentioned earlier, the merits of this case have opened fissures in the executive ranks. The divisions have been not only spatial, as it were, among the agencies, but seemingly even temporal, within a single agency. After the decision in Greene County Planning Board v. Federal Power Commission, supra, the ICC sought leave to file an amicus brief on the petition for rehearing en banc, arguing that the decision, "if allowed to stand [would] compel a substantial number of * * * agencies—including the Interstate Commerce Commission—* * * to assign a staff of employees to the task of preparing [draft impact] statements * * *." The Solicitor General, in his unsuccessful petition for certiorari, spoke to the same effect, noting expressions of "particular concern" by the ICC and the CAB if the *Greene County* decision remained unreversed. Moreover, before the certiorari petition was filed, the ICC apparently found itself constrained (and able) to file a draft impact statement prior to hearing in an abandonment proceeding, "consonant with [the procedure] mandated in *"Greene County*, City of New York v. United States, 344 F.Supp. 929, 939 [4 ERC 1646] (E.D. N.Y. 1972) (3-judge court).

Upon further study the ICC claims to have managed (while the Justice Department has failed) to find its situation distinguishable from *Greene County*. The fact of a shift does not, of course, serve in itself to invalidate the new position. Upon inspection, however, the Commission's arguments fail to avoid the squarely controlling authority of *Greene County*, by which this court is bound. Indeed, most of the arguments now tendered were explicitly rejected in the decision of the Second Circuit. To the extent this is not literally the case, the ICC's contentions are not in any event substantial. So, for example, the agency urges that its staff, unlike the Federal Power Commissions's, does not participate in the hearing before the administrative judge. Hence, it is argued, nobody is there to make a draft impact statement—or, in the language of the ICC brief (p. 25), "the *Greene County* requirement that an impact statement be served by the participating agency staff member prior to the hearing is entirely inappropriate."

The short answer is the one the ICC perceived, though without joy, in its amicus presentation on the *Greene County* petition for rehearing. As that brief complained, the rule of *Greene County* required the assignment of staff members—"an assignment for which," the ICC protested, "there are no budgeted funds and no authorized increase in personnel." In turning a deaf ear to that plea, the Circuit may have deemed sympathy an inapposite response. Compliance with the law frequently entails expense as well as other strains. It is to be hoped that the creative flexibility of the administrative agency can encompass the locating of personnel (as it already has in one instance mentioned above) for such fundamental purpose.

[2] In sum, plaintiffs' motion will be granted. The court will order the ICC (1) to determine at the outset of abandonment proceedings whether "major Federal actions significantly affecting the quality of the human environment" are involved within the meaning of 42 U.S.C. § 4332(2) (C), and, if so, (2) to require staff preparation of a draft impact statement for circulation to the parties and further use in the agency process as the statute requires.[10]

Settle order.[11]

[10] It is not necessary to decide today what may happen if there is a dispute in some instance over an initial ICC determination that a particular case is not in the category of "major Federal actions significantly affecting the quality of the human environment," 42 U.S.C. § 4332 (2)(C), thus obviating the need for an impact statement. The determination would be open, of course, to judicial scrutiny. Hanly v. Mitchell, 460 F.2d 640 [4 ERC 1152] (2d Cir.), cert. denied, Hanly v. Kleindienst, ___ U.S. ___ [4 ERC 1745] (1972); Hanly v. Kleindienst, 471 F.2d 823 [4 ERC 1785] (2d Cir. 1972). But we need not consider whether such a specific ruling in a particular case, involving particular facts and, presumably, a particular exercise of judgment, would be immediately reviewable, by mandamus or otherwise.

[11] The Baltimore & Ohio Railroad Company and the Chesapeake & Ohio Railway Company (B&O and C&O), the trustees of the property of Penn Central Transportation Company (Penn Central) and the trustees of the property of Erie Lackawanna Railway Company (Erie) have sought to intervene as defendants in this action. The Association of American Railroads requests leave to appear as amicus curiae. The United States opposes the intervention applications.

At oral argument, Penn Central agreed that its motion to intervene should be denied, without prejudice to its renewal at a later date, and asked leave to appear as amicus curiae. Such leave is now granted to both Penn Central and the Association of American Railroads.

As for Erie, this movant has not accompanied its "petition" to intervene with a proposed pleading